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BRANCH OFFICE CORRESPONDENTS

L. E. Bredberg, 601 Petroleum Building, Fort Worth, Tex.
Robert C. Conine, Room 1416, 6 North Michigan Ave., Chicago, Ill.
J. R. Crumpton, 540 Ricou Brewster Building, Shreveport, La.
Paul A. Elliott, Chronicle Office, Muskegon, Mich.
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No Let Up in East Texas Area Probable

Highest production in 1931, week ending Aug. 8, average daily output 2,551,807 bbls. Peak of U. S. production, week ending Aug. 24, 1929, average 2,975,435 bbls.

Strict Conservation Necessary If Greatest Recovery Is to Be Obtained. Some Uncertainty Is Weakening Influence

By Andrew M. Rowley

Lowest daily average crude oil production in the United States during 1931 was for week ending Sept. 5 with average output of 1,736,007 bbls.

While there is a preponderance of feeling production of East Texas will be held within reasonable limits and below 400,000 barrels daily regardless of the nature of the decision of the Federal Court on the question of martial law, enough uncertainty exists among refiners and crude oil buyers about the immediate outlook in East Texas to prevent a further strengthening of the crude oil and gasoline markets at this time. A study of decisions of the United States Supreme Court in cases involving the right of governors to establish martial law convinces a large majority Governor Sterling's action in Texas will be upheld. Even in the advent of an adverse decision, other legal means can be employed with a view of maintaining conditions as at present until the Supreme Court has an opportunity to pass on the questions involved.

Of especial importance in view of the hearing of conservation in East Texas scheduled by the Texas Railroad Commission for next Friday is the apparent agreement among geologists that the reservoir energy in East Texas, small as it is, must be conserved carefully if physical waste is to be avoided and the greatest ultimate recovery of oil obtained. At a meeting in Tulsa this week it was suggested the production of the East Texas pools should be limited to 250,000 barrels daily in order to prevent waste of gas.

These factors indicate East Texas will not be permitted to demoralize the situation as it did for a period last year. In fact not only has the desire for strict curtailment of output been strengthened very materially but the feeling is growing the "kick" is lacking behind the wells in East Texas and strict conservation of existing energy is absolutely necessary in order to obtain the greatest recovery over a long period.

Realization of these conditions on the part of the petroleum industry probably will result in an appreciable strengthening of both the gasoline and crude oil markets.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of crude oil in the United States for week ended January 30 and a comparison with the previous week follows:

	Jan. 30	Jan. 23
Oklahoma—		
Oklahoma City	97,960	95,685
Seminole-St. Louis	112,985	114,810
Remainder of State	201,390	200,440
Total Oklahoma	412,335	410,935
East Texas—		
Kilgore	110,155	114,326
Lathrop	118,376	106,760
Joiner	116,819	111,695
Total East Texas	345,350	332,781
West Texas	174,152	173,746
North Central Texas	73,745	75,285
Texas Panhandle	51,686	52,863
East Central Texas	50,035	49,775
Gulf Coast—Texas	108,010	105,904
Southwest Texas	57,594	58,110
Total State of Texas	860,572	848,464
North Louisiana	28,835	29,030
Gulf Coast—Louisiana	30,332	28,462
Arkansas	34,520	34,325
Kansas	98,145	97,620
Eastern	121,000	121,000
Rocky Mountain	79,696	81,044
California—		
Santa Fe Springs	66,250	66,500
Long Beach	78,000	77,500
Playa Del Rey	21,000	21,000
Elwood	16,200	16,500
Kettleman	60,500	60,000
Remainder of State	261,550	265,250
Total California	503,500	506,750
Total United States	2,168,935	2,157,630

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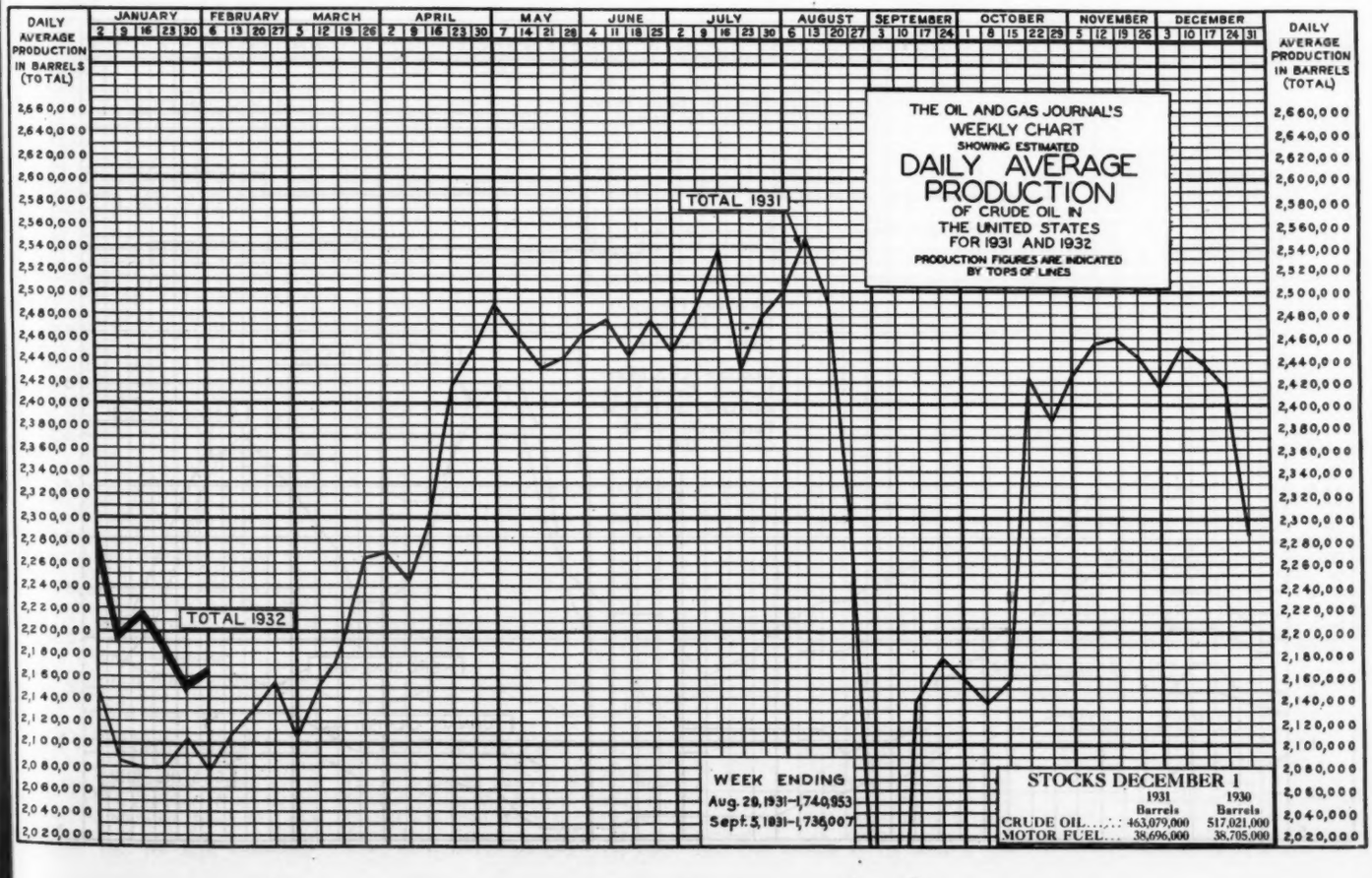


Few Changes in Oklahoma Quotations

Natural Gasoline, Low Gravity Fuel and Gas Oil Prices Lower. Refinery Market Awaits East Texas Developments

By C. O. Willson

The few price changes for the week in the Oklahoma (Group 3) refinery tank car market were downward. Except for a slight buying spurt in low cold test fuels and gas oils the first of the week, trading in all products was generally dull.

Natural gasolines reacted to this dullness with a one-fourth cent decline in Oklahoma with spot material freely available at 2 cents and one-eighth cent lower in Texas. The slow demand for low gravity fuels and industrial gas oils since the first of the year has brought a decline of 2½ cents per barrel in the former and one-eighth cent per gallon in the latter. Fuel oils under 16 gravity with a cold test of 30 or less are available for interstate shipment at a low of 20 cents per barrel and U.G.I. and high cold test gas oils are also offered at 1⅛ cents by a few sellers. There is practically no demand for the extremely high cold test fuel oils and gas oils and sales of both products under the prices quoted above, were reported.

The refined market in Oklahoma and the Mid-Continent generally appears to be facing another critical period which has been the common experience of the market from time to time over the past two years. Sellers have had difficulty in maintaining the January advances in refinery gasolines. This is particularly true of the grades in which no octane rating is given. The U. S. Motor grade was available in substantial quantities at a low of 3 cents with resale material selling as low as 2¾ cents. The 57-65 octane U. S. Motor, however, was firmer at a low of 3⅝ cents and the 65 and above octane was quoted at 3⅝ to 3¾ cents. The spread between the 57-65 octane gasoline and the gasoline in which no antiknock rating is guaranteed, has been increased to three-eighths cent and in the case of 65 octane, to five-eighths cent. The well established jobbing concerns are following the lead of refiners who have their own station outlets, in paying more and more attention to octane rating in gasolines and wider differentials over the low octane gasoline in the tank car markets, is the result.

Probable Future

Market observers are in agreement that the refined market for February will largely depend on developments in the crude oil situation. Whether justified or not there is a feeling among the refining and marketing fraternity that the crude market does not have the strength necessary to support a firm or advancing refined market. The action of the Oklahoma Corporation Commission in reducing the allowable Oklahoma City crude oil production to 95,000 bbls. daily has tended to allay this fear so far as Oklahoma is concerned but there still remains the East Texas situation to consider. In regard to the latter it is believed that before the week is over, the federal court decision covering the legality of the martial law control of production, will be announced. Until the results of this decision are known the refined market will continue to mark time.

The trade fears that the production of crude oil in that area will be out of control, at least temporarily, and result in large increase in the crude runs to stills of the refiners located in that area. The local refiners in the field are now running around 15,000 bbls. of crude oil daily and their output has not been a disturbing factor in gasoline markets except locally for several weeks. However, these plants have a crude oil capacity in excess of 50,000 bbls. daily and should the crude oil become available at attractive prices, their products could dominate open market quotations throughout the Middle West and Southeast as they did for a time last summer and fall. It would require less material now to upset the market than it did last summer for the reason that February is the lowest gasoline consuming month of the year and it appears that spot trading will be particularly dull throughout the month which has just started. Refiners had hoped for greater activity in fuels to offset the maximum seasonal decline in motor fuels but the mild winter coupled with the fact that there has been little improvement in the industrial demand, has not been encouraging.

There are many who are confident that the crude oil situation will be kept in control regardless of what happens in the way of court decisions. They contend that the worst is over in possible crude oil developments and they are confident

(Continued on Page 80)

REFINED MARKET BAROMETER

Weakness rather than strength was apparent in the gasoline tank car markets over the past week. No general price reductions were announced but several refiners at scattered points, found it necessary to reduce quotations on one or more grades to meet competitive conditions. The one-half cent reductions in kerosene prices in the East Coast area came as a surprise as for several weeks it has been the strongest product of the refinery market. Heavy fuels were moving slowly although there were some indications that the bunker market at coastal points may improve. The interior fuel oil market has not improved. The gas oil market was also slow. No important price changes were announced in lubricants and wax. Natural gasolines continued to decline east of the Rocky Mountains.

Mid-Continent—Low octane refinery gasoline slow. Natural gasoline prices lower. Heavy fuels and gas oil soft and prices lower on some grades. Kerosene, tractor fuel and furnace oil firm.

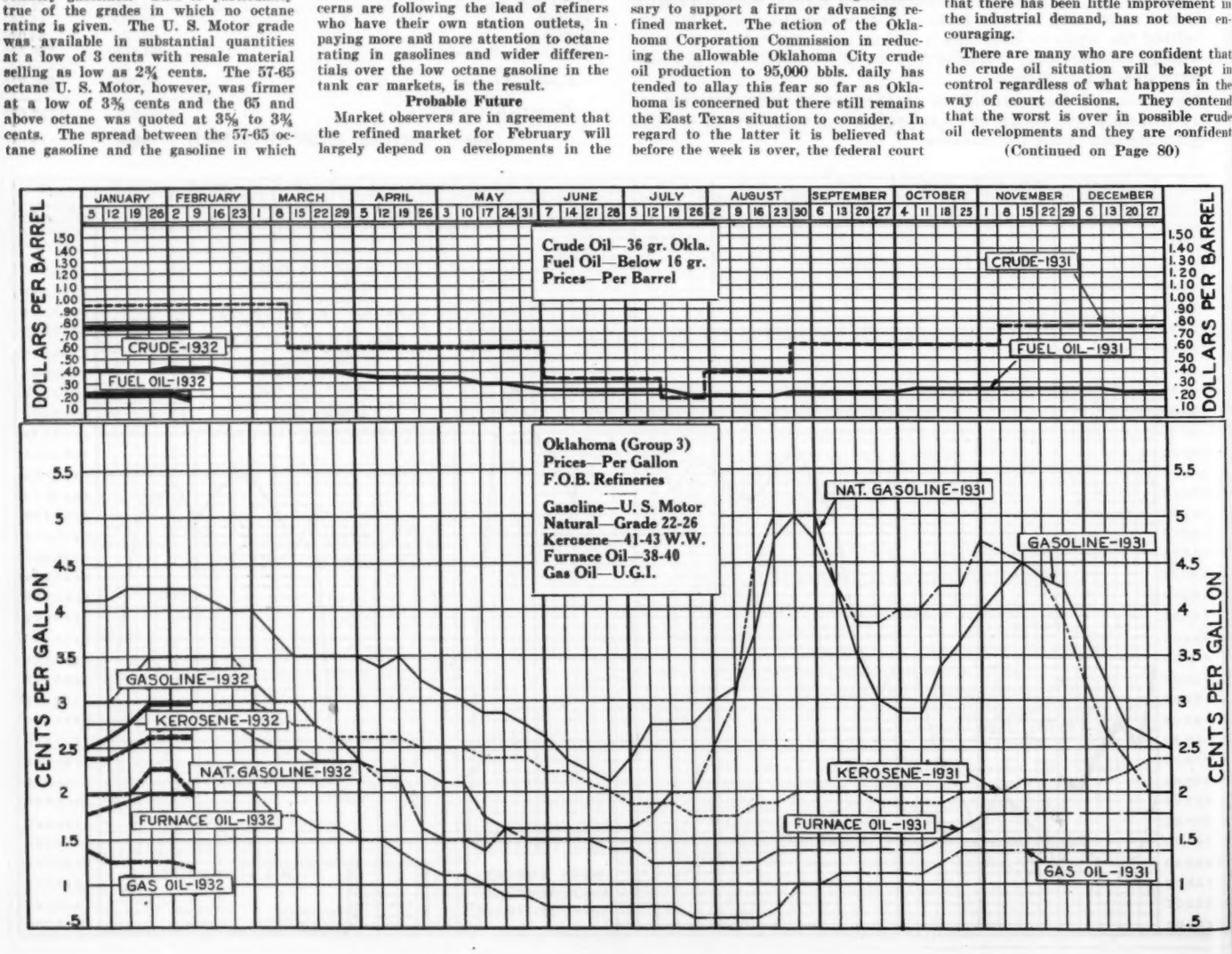
East Coast—Reduction of one-half cent due to competitive conditions most important price change. Improved demand for cylinder oils. More domestic inquiries for wax. Bunker fuel oil more active. Export demand for all products dull.

Chicago—High octane gasolines in good demand. Other grades lower in price. Higher prices for some grades of special naphthas. Kerosene and tractor fuel strong.

Pennsylvania—Better tone to neutral oil and bright stock market. Gasoline slow. Kerosene firm.

Gulf Coast—No important price changes. Fuels and gasoline weak.

California—Gasoline prices lower. Natural gasolines firm. Hostilities in China may stimulate demand for bunker fuels.



Must Save Energy in East Texas Pool

Geologists Are in Agreement on This Point Even Though at Wide Variance of Opinion as to Amount of Oil in Reservoir

By L. G. E. Bignell
Petroleum Engineering Editor

At a meeting of the Tulsa Geological Society held in Tulsa, February 1, R. B. Whitehead, chief geologist for the Atlantic Oil Producing Co., Dallas, Tex., led a discussion of geological features of the East Texas oil field and submitted some notes on estimated future recovery of oil from that area. The meeting was well attended and the discussion following the presentation by Mr. Whitehead covered many details in regard to that area.

While there were many points of disagreement, all were in accord with Mr. Whitehead in his plea for conservation of the gas energy within the oil in this pool, and in this way assuring the field its maximum recovery of oil, whatever that total recovery may be. The estimates of recovery ranged from 12,000 to 21,000 bbls. per acre, and the average thickness of productive sands from 22.7 to 40 feet.

The acreage covered by the pool, as given by Mr. Whitehead, consists of 50,000 acres composing the "heart of the pool" and another 50,000 acres lying around the edge of the pool and not so productive. The portion described as the "heart of the pool" lies within a line that has been drawn inside of the now known limits of the pool and takes in the area wherein the sand thickness is considered the greatest. The line taking in this central area is based on the 3,230-foot minus sea line contours and therefore closely parallels the water line contour on the west drawn at —3,320 feet below sea level.

Mr. Whitehead stated at the beginning of his discussion that in December there was held a meeting of Dallas Petroleum Geologists and East Texas Geologists in Tyler, Tex., and his statements would be made largely from data collected at that meeting. Report of that meeting was carried in The Oil and Gas Journal of December 24.

It was stated the sand body in the East Texas area was tilted, and eroded later, and it is, therefore, the truncated type of oil reservoir that is rare in Texas and the only one of that type known in that state outside of the Big Lake deep sand production area. There are several truncated sand type pools in Oklahoma, and Mr. Whitehead asked for comparisons between the Oklahoma pools and the East Texas Pool as to rate of water movement. C. C. Rae of the Skelly Oil Co., Tulsa, showed a map of the Oklahoma City field and indicated the water movement in the Simpson sand body in that field. He stated that the movement of water there had been rapid once started and if this field is to be taken as a criterion of future water movement in the East Texas oil pool it may be expected that after sufficient oil has been withdrawn and the pressure within the sand body lowered the water movement will also be rapid.

Data Incomplete

Early in his talk Mr. Whitehead pointed out that all data available on this east area in East Texas are of necessity incomplete because no one individual, company or organization has the force at hand to compile the records from all parts of the area at one time. This lack of data is further complicated by the enforcement of proration which has made the drilling in of wells for any considerable depth into the sand unnecessary since the proration rule has been put into effect.

Along the east edge of the pool the producing sand was given by Mr. Whitehead as averaging about 18.4 feet in thickness. There is a high in the center of the Gregg County Field at the north end of the area where the producing sand is well above the —3,320 water level line. The sand is quite thick and wells there have penetrations of from 30 to 70 feet.

There has been at all times a lack of real data on cores of the sands from this field. Each individual company has an accurate record of the sand thickness on its own property and has made estimates of the property, saturation and probable recovery per acre. However, to take the individual statements of core studies from the various leases and try to draw from them any real picture of the average sand thickness of this field seems next to impossible.

Mr. Whitehead stated that at the Tyler meeting it was agreed after several hours' discussion that the average sand thickness for the field was 40 feet. Opposed to this statement was one made at the Tulsa meeting that a study of the cores from 225 wells from the area north of Joiner Field the average effective sand thickness was found to be only 22.7 feet.

One figure was secured by taking statements made largely from memory, the other by actual study of cores secured from the wells, but in either case the data available are not complete for the number of wells taken into account is only about 6 per cent of the total drilled to date.

Average Initial Flow

In this connection a study of the 1931 reports of the East Texas Field made by the writer shows that a total of 161 wells in Gregg County had an average penetration of 28.125 feet and for 107 wells in Rusk County the distance between top of pay and total depth averaged 26.37 feet. These figures were taken by compiling the reports on the East Texas Field carried in The Oil and Gas Journal in the issues of March 24, June 25, September 24 and December 24 last year, those being the last week in each quarter.

Regardless of estimates of sand thickness these data indicate that the wells are not penetrating below the top of the producing formation more than 30 feet on the average and since proration has been made effective it has been noted that the wells are finished with little penetration into the formation where the tests show that sufficient oil can be made to meet the allowable. However, some wells indicate that it was necessary to take in about the entire section to secure the allowable during the latter part of the year and to secure some idea of well initials the accompanying tables have been compiled from these same data.

To secure some equitable bases of comparison it was decided to reduce the figures to the flush production in barrels per hour for each foot of sand penetrated, in as much as this study developed the fact that there has been a wide variation in methods of testing the wells over the period of 1931 and all sizes of chokes have been used. The first table therefore shows the amount of oil the wells made under test conditions for each foot of sand penetrated and the second shows the actual production reported totaled and divided by the number of wells covered by the reports. They have been divided into quarters and on the open flow tests it will be noted that the wells finished during the last quarter made an average of only about 173 bbls. per hour, while those that had been brought in during the first quarter made an average of 560 bbls. per hour.

This seems to indicate that the peak of initial flow from wells in any pool of this area has been passed.

FLUSH PRODUCTION PER HOUR PER FOOT OF PENETRATION

Flow condition—	No. of wells	First quarter	No. of wells	Second quarter	No. of wells	Third quarter	No. of wells	Fourth quarter
Gregg County								
Open casing	0	....	6	50.09	2	9.25	0	....
Open tubing	0	....	15	14.27	7	9.05	8	4.81
1⅝-inch choke	0	....	0	....	0	....	1	33.30
1½-inch choke	1	10.00	0	....	1	12.65	0	....
¼-inch choke	0	....	2	4.40	1	4.63	0	....
⅞-inch choke	0	....	0	....	0	....	0	....
¾-inch choke	0	....	9	4.26	14	9.64	7	3.32
11/16-inch choke	1	4.20	4	2.20	0	....	0	..
½-inch choke	1	2.35	0	....	0	....	2	3.88
28/64-inch choke	0	....	0	....	0	....	0	....
⅜-inch choke	1	3.50	1	1.05	0	....	0	....
¼-inch choke	1	6.50	1	7.65	1	2.64	0	....
Rusk County								
Open casing	0	....	6	22.13	2	21.45	1	28.60
Open tubing	4	15.90	7	18.27	12	5.78	13	6.09
1⅝-inch choke	0	....	0	....	0	....	0	....
1½-inch choke	0	....	0	....	0	....	0	....
1-inch choke	0	....	3	8.18	9	7.11	8	3.88
⅞-inch choke	0	....	1	6.05	0	....	0	....
¾-inch choke	0	....	11	4.52	8	3.76	21	5.40
11/16-inch choke	0	....	12	3.36	8	5.86	4	2.86
⅝-inch choke	0	....	1	2.44	1	2.48	1	5.00
28/64-inch choke	0	....	0	....	1	1.83	0	....
⅝-inch choke	0	....	0	....	0	....	0	....
¼-inch choke	0	....	0	....	0	....	0	....
⅛-inch choke	0	....	0	....	1	0.034	0	....
1/16-inch choke	0	....	0	....	1	1.11	0	....

AVERAGE INITIAL FLOW OF WELLS IN GREGG AND RUSK COUNTIES

Flow condition—	No. of wells	First quarter	No. of wells	Second quarter	No. of wells	Third quarter	No. of wells	Fourth quarter
Open flow	2	560	35	320	26	200	23	173
2½-inch tubing	2	137	2	264	1	160	0	...
1⅝-inch choke	0	...	0	...	0	...	1	260
1½-inch choke	0	...	0	...	1	101	0	...
1-inch choke	0	...	6	150	11	154	9	142
⅞-inch choke	0	...	1	109	0	...	0	...
¾-inch choke	0	...	21	106	22	63	30	104
11/16-inch choke	1	122	16	90	8	90	3	77
½-inch choke	1	28	2	74	1	75	3	107
28/64-inch choke	0	...	1	72	0	...	0	...
⅝-inch choke	1	67	1	62	1	38	0	...
¼-inch choke	1	208	0	...	1	74	0	...
⅛-inch choke	0	...	0	...	1	15	0	...
1/16-inch choke	0	...	0	...	1	10	0	...

Per Acre Recovery

To try to arrive at probable recovery by making comparison with other fields with the same character of sand is difficult for in the older fields it is a well known fact that the number of acres drained by each well was much lower than that drained by the wells in East Texas. The following table gives some data on this point:

ESTIMATED OIL RECOVERY WOODBINE FAULT FIELDS

Field—	Acres per well	Approximate ultimate recovery per acre, bbls.	Estimated total recovery, bbls.	Probable proved acreage
Powell ..	3.1	42,000	110,000,000	2,600
Wortham	2.3	31,000	23,000,000	745
Mexia ..	6.8	25,000	94,000,000	3,700

Taking the amount of oil recovered from wells in certain local spots in the pool will show recoveries to date of from 1,000 bbls. to as high as 17,000 bbls. per acre. These data are again misleading for it is a well known fact that some wells in the Greater Seminole area actually produced four times as much oil as it would be possible to crowd into the pore space within the sand from which the oil was recovered. It is only logical to assume that the great recovery was therefore due to drainage of more area than that actually assigned to the well.

Mr. Whitehead stated that there are now 3,854 wells completed in East Texas and he estimates that as many more will have to be drilled to completely drain the area. On the basis of the 100,000 productive acres in this area as given by Mr. Whitehead this would mean one well to about 13 acres.

If 7,700 wells will be needed to drain this area it will mean the expenditure of over $150,000,000 for drilling only and at the present price of 83 cents per barrel this would require that the field produce about 181,000,000 bbls. of oil to cover that expense alone. This is gross production without allowance for royalty, pipe line or gross production tax and any form of expense other than drilling. To date the field has produced about 116,000,000 bbls. of oil which has not sold for anything like an average price of 83 cents per barrel.

Conservation of Gas

It, therefore, is very evident, as Mr. Whitehead pointed out, that all companies interested in this area must pay strict attention to the methods used in recovering the oil. The Atlantic Oil Producing Co. is using tapered tubing in flowing many of its wells with the result that it has reduced the gas-oil ratio to about 100 feet of gas per barrel of oil. The average of gas-oil ratio for the field is about 375 feet, or the oil carries to the surface all of the gas that is absorbed in it at the well pressure and temperature.

It was agreed that this oil is not fully saturated with gas, but even so Mr. Whitehead contends that as now produced there is a waste of 250 feet per barrel and at the rate of 400,000 bbls. of oil daily this would mean a waste of 100,000,000 feet. Some gas is being treated in gasoline plants and a lot used for fuel for boilers on drilling wells.

Should Limit Production

It, therefore, seems that there should be a limit placed upon the daily production based upon the conservation of the gas that is in the oil in place in the reservoir. It has been estimated that this would limit the field to a daily production of not to exceed 250,000 bbls. daily, and under this rate of production it would seem reasonable to expect the maximum recovery from the field.

This paritcular phase of the production problem of East Texas is to be discussed by a meeting of petroleum engineers and geologists in Dallas on February 5.

The use of a string of tapered tubing varying from 2½ inches in diameter at the top to as small as three-fourths inch diameter at the bottom of the well has been recommended and actually put into

(Continued on Page 82)

Treat Refinery Gases to Reduce Corrosion of Gasoline Recovery Plant Equipment

* * * * * *

By W. T. Ziegenhain

In order to minimize corrosion in the vapor recovery system at the Gulf Refining Co.'s plant at Port Arthur, Tex., two Koppers treating plants have been placed in operation and these are removing an average of 14 tons of hydrogen sulphide gas daily. Because a substantial portion of the total crude refined here comes from West Texas, the need for the treating plant is probably intensified, but the practice of treating refinery gas promises to become more general throughout the industry if the present trend in operation continues.

Year by year refiners are increasing their production of gas. Over the immediate future there is a strong likelihood this will be given impetus as the result of intensifying cracking conditions in order to produce gasolines of higher octane number. Although studies are in progress, which indicate that gas losses may be reduced by going to relatively high cracking pressures, the fact remains that much larger gas yields accompany each stepping-up of the octane number of the motor fuel produced.

Most refineries now burn all of the residue gas made. As this volume is increased and further improvements are made in the design of furnaces, exchangers, etc., there may come a time in the not far distant future when the modern refinery will not use all the gas it makes and will offer gas as a product for outside sale in the same manner as it offers fuel oil and coke. In those instances where refineries have been built away from the oil fields and gas fields, there may develop a chance for these to find profitable outlets for their gas through the artificial or natural gas company serving the respective community. In a few instances this is already being practiced.

Should this trend continue, it will be necessary to condition the refinery gas so that it will be of suitable quality to mix with other gases. One of the principal requisites is that it be relatively free of hydrogen sulphide. An excellent example of how a refinery handles an extremely difficult problem in the matter of treating gas of abnormally high hydrogen sulphide content, may be cited in the operation of the two Koppers purification units at the Port Arthur refinery.

* * * *

Three Koppers Units in Plant

Incidentally, the company is operating what is known as its No. 1 unit for the treatment of high sulphur crude naphtha. Its Nos. 2 and 3 units operate in parallel to handle about 9,000,000 feet of high sulphur content gas, and it is the operation of these units to be discussed here.

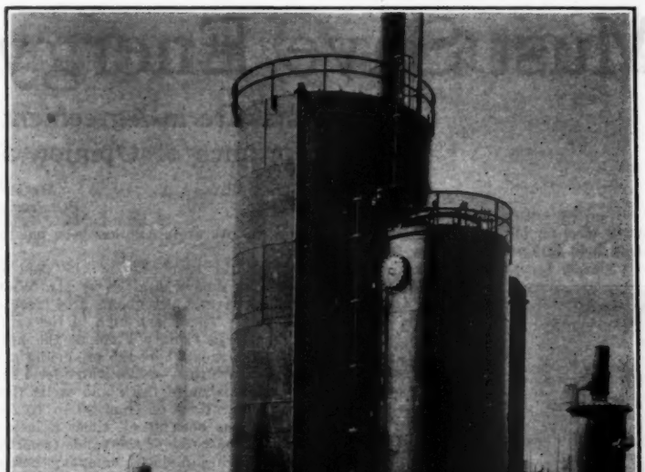
The No. 3 unit, which is the larger of the two, and in reality is a double unit, processes those gases which contain relatively high concentrations of H_2S such as that coming from the reducing and coking stills handling West Texas crude. The other unit, or No. 2, handles the gases from pressure stills handling high sulphur charging stock. No. 3 unit removes approximately two-thirds of the total H_2S scrubbed out of the gas, although it treats only about one-third of the total gas. This fact emphasizes the flexibility allowed in the operation of the equipment, and also that the gas treating capacity is a function of the amount of H_2S to be removed.

The Gulf Refining Co. has found that when the H_2S content of the gas is reduced to between 150 and 200 grains per 100 cubic feet a maximum volume of gas may be treated and the corrosion at this H_2S concentration is small.

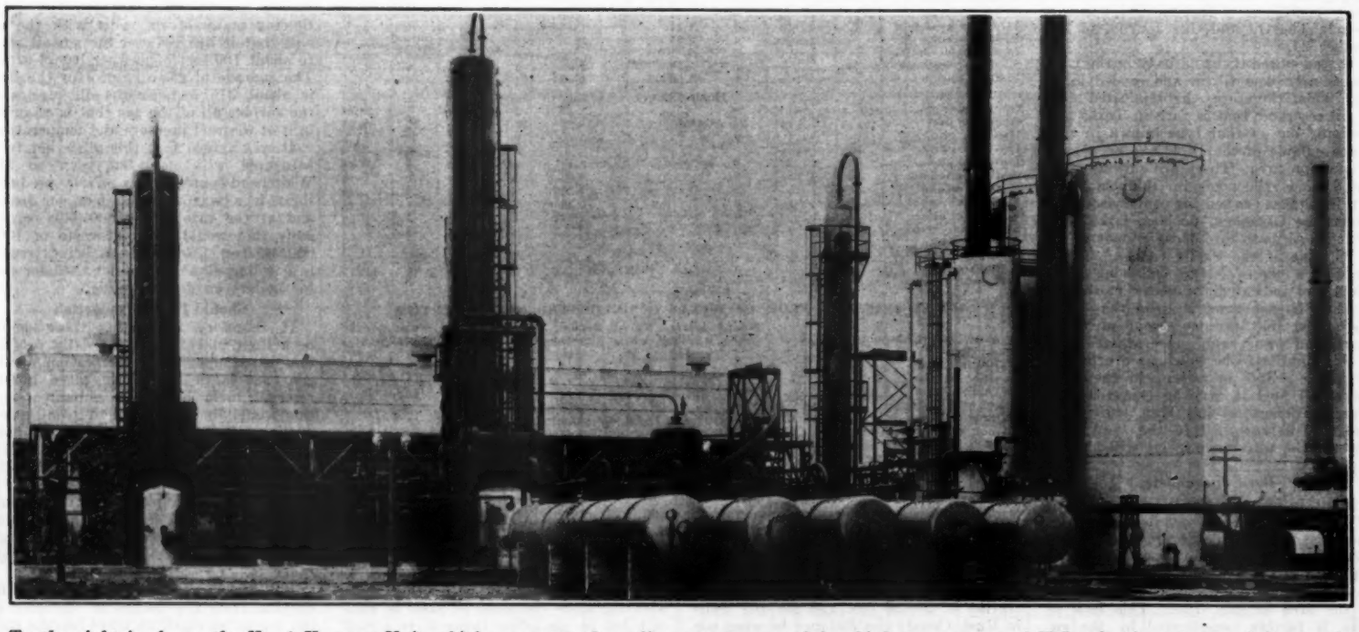
* * * * * * * *

Express H_2S Content in Grains

It is common practice to refer to the H_2S content of a gas as the number of grains per 100 cubic feet. A conversion to a volume basis may be made since a concentration of 1 per cent by volume of



General view of No. 2 Koppers Gas Treating unit at the Gulf Refining Company's Port Arthur, Texas, Refinery.



To the right is shown the No. 3 Koppers Unit which processes the refinery gases containing high percentages of H_2S. At the extreme right may be seen the air blower as part of the actifier. Just to the left of the two large actifier towers are shown the gas purifier towers. Farther to the left is shown the high-pressure gasoline absorption and stabilizing plant which is recovering approximately 125,000 gallons of gasoline daily.

H_2S in a gas is equivalent to 635 grains of H_2S per 100 cubic feet of that gas.

To show the effectiveness of the treatment, actual results are given below which cover a period of four months, and these may be considered typical.

Plant No. 2

Average—	Grains of H_2S per 100 cu. ft. of gas: Gas entering	Gas leaving	Pct. of original H_2S content removed
October	1,193	144	88.0
September	2,372	162	88.2
August	1,248	152	87.8
July	1,128	82	93.0

Plant No. 3

Average—			
October	5,350	132	98.0
September	3,820	123	97.0
August	4,172	169	95.9
July	4,842	205	96.0

Because all of the gas processed is later used at the plant as fuel under the stills and boilers, there is no need for such an exacting control of the H_2S content of the finished gas as if it were turned into a pipe line for household use. For this reason the operation of the treating units may be said to be "crowded" and the results should not be interpreted as "meeting legal gas standards" for H_2S content. To do so, however, would simply entail designing a plant of sufficient added capacity. To further explain this, it might be said that the legal restriction usually specified is to the effect that gas offered for sale shall contain not over 30 grains of total sulphur compounds per 100 cubic feet of gas. With this limitation there is no noticeable odor to the burned gases even though the appliance be unvented.

Gas Treated

At present this plant is treating about 9,000,000 feet of gas a day. This gas comes from three sources, the crude stills, coking stills and the various pressure cracking units handling high sulphur oils.

Only the gas containing the highest percentage of H_2S and wet enough to be processed through the gasoline recovery plant is treated. Ordinarily, the gas coming from the crude stills and the coking stills is enough to supply the No. 3 treating plant while operating at capacity. Low sulphur content pressure still gases are taken into the system only when the H_2S content of the gas entering is too high, in which case it has been found advisable to dilute this gas.

Coke Still Operations

Incidental to the operation of the Koppers units it is interesting to note how the operation of the coking stills is correlated. The gas which comes from the coking stills does not represent the entire volume of gas produced there. During the cycle of each still's operation, there is a period during which the H_2S content of the total gas generated is abnormally high. When reducing West Texas crude to coke as an example, the gas coming from the still shows the H_2S content as high as 86 per cent by volume of the gas rate at one point in the distillation. To determine during what portions of the coking operation the H_2S content is excessive, a series of tests of the gas was made.

The accompanying table contains the results of this test.

DISTILLING WEST TEXAS CRUDE TO COKE

After—	Still temp. °F.	Vol. of gas M cu. ft. per hr.	Per cent H_2S by volume
Start	100	0.0	....
1 hour	130	3.0	1.5
2 hours	160	10.0	5.5
3 hours	186	11.1	3 5
4 hours	200	4.3	4.5
5 hours	215	0.0	....
6 hours	240	0.0	....
7 hours	280	0.0	....
8 hours	312	1.3	55.5
9 hours	340	2.2	64.0
10 hours	366	4.0	80.0
11 hours	390	3.0	86.0
12 hours	414	1.2	86.0
13 hours	440	0.2	....
14 hours	465	0.0	....
15 hours	490	0.0	71.0
16 hours	520	0.2	77.0
17 hours	545	0.8	75.0
18 hours	569	1.3	72.0
19 hours	592	1.2	50.0
20 hours	622	1.6	34.0
21 hours	650	2.4	27.0
22 hours	680	5.2	21.0
23 hours	710	7.4	11.0
24 hours	732	10.0	8.0
25 hours	765	11.8	7.0
26 hours	...	16.2	6.0
27 hours	...	11.4	3.0

As a result, a routine procedure for taking the gas from the reducing batteries and coke stills was instituted. This provides for running the gas from these units to the gas plant only when it is not abnormally high in H_2S content. When it is high in H_2S it is not allowed to enter the line going to the gas plant but is diverted into a fuel line under the coke stills where it is burned. As may be seen from the test data referred to previously, the H_2S content of the gas coming from the coke stills reaches as high as 86 per cent and abnormally high concentrations prevail throughout the greater share of the run.

General view of the interior of the No. 3 compressor unit at the Gulf Refining Company's plant in Port Arthur, Texas. Absorption of the light fractions is carried out under high pressure. Note the ventilating duct suspended from the ceiling. This supplies fresh air from a blower located outside the building. Any hydrogen sulphide or hydrocarbon gases are thus removed from the compressor room.

Koppers Plant Results

It is evident from the discussion above that the Koppers plants are given a rather heavy duty to perform. Actual plant results over the past four months indicate best, the extent of the H_2S removal and the amount of sodium carbonate used to effect this as a rough index of costs.

Month—	Cu. ft. of gas treated	Lbs. of H_2S removed	Lbs. of Na_2CO_3 used per lb. H_2S removed
Plant No. 2			
July	146,887,000	219,511	.133
Aug.	176,860,000	276,975	.128
Sept.	169,090,000	292,284	.114
Oct.	200,089,000	299,714	.121
Plant No. 3			
July	93,886,000	622,020	.086
Aug.	106,831,000	610,463	.077
Sept.	104,077,000	549,675	.104
Oct.	78,238,000	582,925	.095

The lower soda ash consumption per pound of H_2S removed in the case of the No. 3 plant is due to this plant having two units in series, as may be seen in the accompanying pictures.

Principle of Operation

The principles involved in the Koppers process are generally known for the process has found a wide use in the scrubbing of gases of by-product coke plants.

The process is more properly referred to as the Seaboard liquid purification process and is licensed by the Koppers company.

The operation simply involves passing the raw gases up through a scrubbing tower where the H_2S contained in the gas reacts with the soda ash solution. The chemical reaction occurring forms sodium bicarbonate and sodium hydrogen sulphide. Because of the ease with which the original reaction may be reversed, by blowing it with air at controlled temperatures, it is possible to recover the solution and liberate the H_2S into the air. The solution used contains from 2 to 3 per cent by weight of soda ash. As the solution absorbs the H_2S, it is accumulated in a tank known as the "foul solution" tank. From here, it is pumped into the top of the actifier tower. A stream of air is blown up through this tower and as the spent solution meets this air stream, the H_2S is liberated and the solution is converted back to sodium carbonate. The H_2S is carried away with the air through a stack in the top of the actifier.

The chemistry involved stated in simple reactions may be shown as follows:

$$Na_2CO_3 + H_2S = NaHCO_3 + NaHS$$

(blown with air)

$$NaHCO_3 + NaHS = Na_2CO_3 + H_2S$$

The reagent losses in this process are due to conversion of part of the sodium hydrogen sulphide and sodium bicarbonate to sodium thiosulphate and carbon dioxide on blowing with air.

$$2NaHCO_3 + 2NaHS + 2O_2 = Na_2CO_3 + Na_2S_2O_3 + 2H_2O + CO_2$$

The sodium thiosulphate accumulates in the solution but does not interfere in any way with the efficiency of the operation until its concentration becomes excessive. If there were no loss of solution from the system it would accumulate until crystallization would occur.

Of the constituents of the solution, sodium bicarbonate is the least soluble and its solubility is still further reduced by the presence of other salts. A condition may occur where there is such an accumulation of sodium thiosulphate as to cause precipitation of the sodium bicarbonate. This is forestalled by withdrawing some of the solution and replacing it with fresh sodium carbonate solution. Thus an actual loss of active salts along with the sodium thiosulphate disposal is witnessed but this loss is obviously small compared to the H_2S removed. A general practice has been made of dumping the solution when its gravity reached 28° Be., as this has been found to be a point at which the thiosulphate concentration begins to be excessive.

Care is taken to hold the actifier temperatures between 80 and 90° F. To accomplish this, heaters are installed in the air blower exit and are used during the winter months when atmospheric temperatures go below the minimum of the range.

Temperature control is necessary for two reasons. First, the temperature of the activated solution is influenced by the temperature of the air used to remove the hydrogen sulphide in the actifier and in turn the temperature of the solution must lie within definite limits to make the removal of hydrogen sulphide from the gases most effective.

In a similar manner, temperature is an important factor in the liberation of the hydrogen sulphide gas in the actifier and as stated previously, a range of 80 to 90° F. in the air temperature entering the actifier tower has been found to satisfy all operating conditions.

Corrosive Effect

The effectiveness of the treatment has been clearly shown in the table setting out the actual weight of hydrogen sulphide removed. It becomes obvious that serious corrosion of the absorption and compressor equipment would result without such a treatment and, in addition, the handling of the gas throughout the plant would entail further hazards due to the poisonous effect on workmen if a sufficient quantity of the gas is taken into the lungs.

In safeguarding the workmen in the compressor room from the chance of their breathing a sufficient concentration of hydrogen sulphide gas, a forced, downward draft is introduced through the compressor room. A blower of large capacity has been located outside the room and large ducts lead the fresh air into the room. These ducts are suspended from the ceiling of the compressor room and openings have been placed at strategic points to give the fresh air a good distribution. There is a sufficient volume of air to maintain a very noticeable draft through the large end doors of the building at all times.

This draft is also of sufficient volume to purge the room of any hydrocarbon gases that might accumulate in the room as the result of a leak, or in the event of a line break.

The corrosive effects of hydrogen sulphide are especially bad when moisture or oxygen is present. In a similar manner, the corrosive action is hastened when the gas is concentrated by compressing it.

Its presence in gasoline is not only harmful to the equipment needed for use as a motor fuel as the result of a portion of the hydrogen sulphide gas being converted by oxidation to yield a free sulphur which in turn dissolves in the gasoline.

Other Installations

Other Koppers installations are located at Chatham, Ontario, Canada, to purify the gas supplied by the Union Natural Gas Co.'s lines and at Wood River, Ill., to treat the gas supplied by the Illinois-Missouri Pipe Line Co. These installations and a more complete description of the principles of the Koppers process itself have been included in an article appearing in The Oil and Gas Journal of April 4, 1929, on page 116, written by D. J. Jacobson, under the title of "H_2S Only Need Be Removed From the Gas."

Tax on Imports Argued at Washington

Wirt Franklin Supports Proposal for Revenue Levy Before Ways and Means Committee. Closely Questioned by Committeemen

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Jan. 30.—The campaign for an import duty on petroleum and products was opened here this week.

Wirt Franklin, president of the Independent Producers Association of America, appeared before the Committee on Ways and Means of the House of Representatives, which is preparing a revenue bill covering a great variety of means for increasing taxation, and presented an extended argument in favor of obtaining revenue from foreign oil coming to this country.

This was purely a revenue-raising proposition presented to a committee of which the Democratic majority is supposed to be antagonistic to the Republican policy of protection and to favor a tariff for revenue only, "with incidental protection." The fact is, practically every member is sympathetic with any proposed tariff protection when it reaches into his own district or state.

An interesting feature of the session was the adoption of a resolution calling on the Tariff Commission for another and third report on the difference in the cost of producing and refining in this country and abroad, bringing information down to date and covering the year 1931. The report of the commission submitted in December covered a period that ended with 1930.

Just how much delay this proceeding will necessitate is now problematical. Whether the experience of the commission in gathering such information will promote the work or whether the report will be delayed far into the summer cannot be told at this time. It is asserted on the part of opponents of a gasoline import tax that conditions have materially changed since the last report of the commission was made while proponents of the import tariff declare that no change could have taken place to alter the essential facts of the last report.

No further action is necessary to direct the Tariff Commission to proceed with its work as the last tariff act gave the committee full authority to call for reports from the commission.

Opponents of the oil tariff will be heard February 2, after a hearing on electric and gas sales tax, and from present indications they will be as numerous as they were on former occasions when the Ways and Means Committee heard them. The outstanding opposition voiced at those times was from industrial interests of Atlantic Coast states that contended against any legislation that would increase the cost of fuel oil, together with representatives of the Pan American Oil Co.

Chairman Collier's Questions

One of the leading questions asked Mr. Franklin was by the chairman, James W. Collier (Dem., Miss.), who has served in Congress for the past 20 years.

Mr. Franklin had asked for a tariff of 2 cents a gallon on crude oil and 4 cents on gasoline which he said would produce revenue but would not keep out foreign oil as there was a differential in costs of production of crude of $1.03 in favor of Venezuela.

"What will be the effect of this duty on prices in this country?" Mr. Collier asked.

"I do not believe it will have any effect," Mr. Franklin replied.

The price of gasoline, he continued, had not followed the price of crude oil.

"You know," he said, "the price of gasoline is constant in the United States whether crude oil sells for $1 or for half a dollar."

When a suggestion was made that greater recovery of gasoline could be had from American crude than from the crude oil from Venezuela and Colombia Mr. Franklin discredited any such claim, saying under modern cracking methods the recovery of gasoline from foreign oil is as great as from the American product. They can increase their recovery from 18 to 44 per cent by modern methods, he declared.

New England and Fuel Oil

Allen Towner Treadway (Rep., Mass.), member of the joint Congressional Committee on Internal Revenue Taxation, wanted to know what the price of fuel oil would be with the proposed import tax imposed on it.

"What will be the price to the consumer," insisted Mr. Treadway.

"I think the wholesale price will be increased 2 cents a gallon," replied Mr. Franklin.

Mr. Treadway: "The consumer will pay the whole of that tax."

Mr. Franklin: "I understand you pay 8 cents a gallon for your fuel oil, so there is plenty of leeway to take up the difference. It will be absorbed."

Mr. Treadway: "You think the domestic oil people are not in our market in New England at any time?"

Mr. Franklin: "No, we are not in that market to any appreciable extent. We could be in it under other conditions."

Mr. Franklin explained that a tariff on imports of oil would rebound to the advantage of New England industry as once the oil operators could dispose of their product a market would be made for New England manufactures. Again asked concerning what effect increasing the price of fuel oil would have, he replied:

"On large consumers who use fuel oil under boilers I admit the price will be higher. That applies to cases in which there is large use. But I do say these same companies and monopolizers that now supply that fuel oil will reap in profit 10 times the amount they would lose in the fuel oil by re-established prosperity if they would keep their wealth in the United States instead of sending it to foreign countries. Oil is a new wealth."

Competition With Coal

Referring to the coal industry as one of the principal industries of the country, the witness said that cheap Venezuelan oil is causing vast losses. The railroads are losing freight because of the depression in the oil industry which decreases the buying power of millions of people, and the nation could obtain large

(Continued on Page 79)

Senators Get Gasoline Tax Protests

Senator Capper's Committee Assures Full Hearing on Proposed Increase in District of Columbia. Many Oil Men Write

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Feb. 1.—The House bill providing for an increase in the gasoline tax of the District of Columbia from 2 to 4 cents, pending before the Senate Committee of which Senator Capper, Republican, of Kansas, is chairman, is continuing to attract widespread attention and opposition not only here but from all sections of the United States.

Oil associations, companies and individuals are writing to the chairman protesting against the enactment of the House bill, passed without hearings and wthout debate on the floor of the House, as a measure bound to increase bootlegging in gasoline, and vicious in many ways because it would tend to place the approval by Congress on the policy of high taxation of this commodity and thus invite states to follow the leadership of the national legislature in fixing a 4-cent tax as a model wherever a lower rate is now levied.

It is pointed out that this policy would penalize the farmer and the city worker alike.

That the Senate Committee of the District of Columbia will give ample time for all parties opposed to this increase by means of public hearings there can be no doubt and ample time is being given to prepare opposition statements for consideration of the committee. The committee is writing to all persons from whom letters are being received inviting them to appear before the committee at a date to be announced later, probably two or more weeks from this time.

Chairman Capper's Position

Replying to a protest from Frank B. Fretter, president of the National Refining Co., at Cleveland, Ohio, Senator Capper says:

"You may be sure there will be no hasty action on this matter of gasoline taxation increase in the District of Columbia. In view of the fact that I am chairman of the committee which will conduct the hearing, I think I should maintain an open mind and see that every one interested has an opportunity to present his views fairly and fully. I think you understand that I have long regarded the oil industry as highly important to the welfare of our section of the country and have a sympathetic interest in the future of the industry."

To Be Used on Parks

An effort is now being made to divert the proceeds from the increased gasoline tax to the building and maintenance of public roads in the extensive parks of the District of Columbia, which practically means the paying of the upkeep of these parks by means of a tax on the oil industry.

Col. U. S. Grant III, in his capacity of director of public buildings and public parks has written to Senator Capper, chairman of the district committee endorsing the proposed increase of the gas tax from 2 to 4 cents per gallon and recommending that the bill passed by the House and now pending before the Senate be amended to permit its use for the construction and maintenance of park roads as well as city streets. This use of the gasoline tax funds for park roads is justified by Colonel Grant because he says such will relieve traffic on streets now congested. In a statement evidently intended to discriminate between parkway roads and parks, Colonel Grant says:

"Since they (the roads) are entirely used by motor vehicles, it is only right that some of the funds raised by taxing the fuel of such vehicles should be available for the construction of such park and parkway roads—not at all for improvement or maintenance of the parks themselves but merely for the road work."

Colonel Grant believes the district commissioners will not object to this change which is recommended by the National Capital Park and Planning Commission.

The fact is, the road work in the parks of this city referred to by Colonel Grant, involves almost all construction expense incurred in maintaining the parks. If the gasoline tax is used in this way it will practically be used to care for all park expenses. Chairman Capper replying to this letter requested Colonel Grant to frame the kind of amendment he wishes adopted, saying he would lay it before the committee for its consideration, and the colonel offered the following amendment:

Park Amendment

"A tax of 4 cents per gallon on all motor vehicle fuels within the District of Columbia, sold or otherwise disposed of by an importer, or used by him in a motor vehicle operated for hire or for commercial purposes, shall be levied, collected, and paid in the manner hereinafter provided. The proceeds of the tax except as provided in Section 840 of this title, shall be paid into the treasury of the United States entirely to the credit of the District of Columbia and shall be available for appropriation by the Congress exclusively for road and park and parkway road improvement and repair."

This letter from Colonel Grant seems to indicate favorable action by the district commissioners who constitute the governing board of the district, although the commissioners have not yet gone on record with any recommendation concerning the proposed gasoline tax.

Missouri and Kansas Protest

The Gasoline Tax Evasion Committee for the western half of Missouri and the State of Kansas, of Kansas City, Mo., through its chairman, H. H. Booth, has filed with the committee resolutions reciting the interest of the committee in the suppression of gasoline tax evasion and expressing the opinion that the higher rates of gasoline taxation are conducive to increased tax evasion if not the primary cause of it. Further, the committee expresses its profound conviction that an increase in the rate of gasoline taxation by the Congress of the United States affecting the District of Columbia would so place the stamp of approval of our Federal Government on such increases that disastrous state legislation would ensue and further paralyze an already demoralized petroleum marketing industry. Resolutions follow appealing for legislation to suppress gasoline tax evasion and expressing opposition to any increase in the rate of gasoline taxation for the District of Columbia.

President George S. Allee, of the Mis-

(Continued on Page 66)

Welded Oil Line Constructed in Mexico

Exceptionally Heavy Rains Added Greatly to Difficulties of Contractors on Big Project Just Completed

By S. D. Baker
Vice President and General Manager, Ingenieros y Contratistas "Martin," S. A.

In constructing a 10-inch welded oil pipe line for the Compania Mexicana de Petroleo "El Aguila," S. A., through four states in the Republic of Mexico, the contractors, Ingenieros y Contratistas "Martin," S. A., a subsidiary of the James F. Martin Corp. of New York, were confronted with some of the most unique features and problems ever encountered in the construction of any oil pipe line in the history of America.

The line starts at Palma Sola, State of Vera Cruz, which is the Compania Mexicana de Petroleo "El Aguila," S. A., gathering point from its productive leases in the States of Vera Cruz and Puebla. The Aguila company also has a complete pipe line system entering Palma Sola direct from its Tampico refinery and passing through its Tuxpam bar terminal.

The new 10-inch line extends from Palma Sola through the States of Vera Cruz, Puebla, Hidalgo and Mexico, terminating at "El Aguila" company's new refinery located at Atzcapotzalco, a suburb of Mexico City. Starting at Palma Sola, Kilometer 0, the line extends through heavy timbered country to kilometer 18, and from kilometer 18 to 21, the line passes over the top of a mesa (table land) known as "San Diego Mesa," which is 380 meters above sea level. The line takes a drop from the top of the mesa, kilometer 21, to kilometer 23, of 230 meters. The greater part of the section between kilometers 23 and 40 traverses the low lands and crosses and recrosses the Cazones River four times. At kilometer 45, 460 meters above sea level, the line enters the rough mountain section and follows through continuous mountain regions until reaching kilometer 89½, which is 2,183 meters above sea level.

The contractors encountered the most difficult pipe line problems through the section kilometer 45 to 89½. At kilometer 68 the line passes the Mexican Light & Power Co.'s hydroelectric project which furnishes electricity for Pachuca, Mexico City and other towns between these points. The water backed up by the light and power company's dams has formed huge lakes nestled in between great towering mountains, making one of the most beautiful scenes that can be encountered in this section of the republic.

Line Parallels Volcanoes

From kilometer 89½ to Atzcapotzalco refinery, kilometer 223+615, the line passes through mountain valleys and parallel to the great volcanoes "Ixtlaciahuatl" and "Popocatepetl," known as "the sleeping lady" and "Popo." Near kilometer 180 the line passes very close to the famous old pyramids of San Juan Teotihuacan, State of Mexico.

The line is constructed of 41-pound standard screw end line pipe which was furnished the contractors by the Aguila company and all pipe was taken through Martin & Co.'s machine shops at Tampico where it was thoroughly inspected and both ends cut off. Pipe was then bevelled to 45 degrees, using six 10-inch pipe cutting and bevelling machines. From Tampico the pipe was transported over the National Railways to Mexico City and Pachuca, where it was transferred to narrow gauge cars. Between the refinery at Atzcapotzalco, kilometer 223+615, and Necaxa, kilometer 68, the pipe was distributed by rail to the closest point to right of way; then hauled and strung on right of way with International Harvester Co. 5-ton trucks equipped with 5-ton Highway trailers. The pipe required for the section kilometer 45 to kilometer 68, was delivered by narrow gauge railroad to Necaxa, State of Puebla; then hauled and strung by caterpillars 60s with Martin eight-wheel high-speed trailers.

Transportation Problems

The transportation problem between kilometer 45 and 89 was a very difficult one for the contractors as the entire distance was through very rough and broken mountain regions, ranging in height from 468 to 2,183 meters above sea level, making it necessary to open up mountain side roads. The mountains through this section are composed of loose rock boulders and soil. The contractors were subjected to continuous mountain slides that would bring down on their roads tons of rock and earth, delaying the transportation for days. The rainfall in this region during the year 1931 was 84 inches, which naturally made the contractors' transportation and construction problems very difficult. Oftentimes the roads along the mountain sides would give way under heavy loads and wagons with pipe, oxygen, carbide and other construction material would break loose from the caterpillars and plunge down the mountain side from 200 to 300 meters. One caterpillar 60 was lost by the contractors over the mountain side and was a complete loss to them as the machine turned over a number of times and dropped over 300 meters to the bottom of the valley. On certain sections of the road between kilometers 45 and 68 Martin & Co. were forced to use three caterpillars 60 to one eight-wheel wagon loaded with 11 joints of 10-inch pipe, due to muddy roads.

Crossed Flooded River Five Times

It is considered by the contractors that their most difficult transportation problem of the entire line was between kilometer 0 and kilometer 45. In this section the line crosses a mountain river (Cazones River) five times and due to the heavy rains in the mountains during 1931, the river was in a continuous flood stage, making it necessary to use cable ways in order to cross supplies, material and small equipment. Over this section, especially between kilometer 0 and kilometer 18, and kilometer 23 and kilometer 40, the right of way passes through the lowlands parallel to the Cazones River, and as the top soil through this section was made up of decayed vegetation, which would not support the weight of tractors and wagons, the contractors encountered numerous difficulties in their transportation problem. In order to move transportation equipment over this section, Martin & Co. were forced to corduroy with small trees the greater part of the right of way and over several sections they were forced to recorduroy several times as the original timbers would sink so deep in the soft wet soil, the tractors could not operate under load. The rainfall over this section became so heavy during September, October and November, 1931, that the contractors were forced to roll by hand 3,211 joints of pipe between kilometers 10 and 17½. It was also necessary to pack on mule back all paint, asphalt, carbide, oxygen and camp supplies required in this section. In rolling the pipe, Martin & Co. employed caterpillars 30 and Monarch 35 tractors with booms to place pipe in a continuous track with joints parallel about 10 feet apart, over which the pipe was rolled by hand labor. As the pipe was rolled forward, the back end of skidways or track was picked up by tractor with boom attachment and the work continued in this manner until the 3,211 joints were moved forward to kilometer 17½. Rolling the pipe by hand was difficult as the elevation increased between kilometers 10 and 17½ over 210 meters.

Rain and Malaria Mosquitoes

Martin & Co. employed over 1,000 men in rolling the pipe, but due to a steady downpour of rain and to malaria mosquitoes which infested this section of the country, the contractors were never successful in keeping over 600 men working at any one time. Doctors and camp hospitals were maintained; it was very seldom that less than 350 to 400 men were on the sick list and the majority of these men were being treated for malaria. The Cazones River would rise from 8 to 10 feet in a few hours and as the current was so strong, it made it impossible to place pontoon bridges. Therefore, the contractors suffered numerous delays on account of flood water in the river.

Martin & Co. employed the following methods in constructing the line:

Pipe was lined up on dollies or skids along right of way in sections from 6 to 18 joints to the section. Two Mexican welders were employed in tacking the joints and properly lining up sections. A heavy steel clamp was used by tack welders to insure an absolute alignment of each section. Following the tack welders came the firing line crew composed of all Mexican welders. Each section was then welded by what is commonly known as roll welding. An average of 5¼ rods weighing 220 grams each and manufactured by the Consolidated Rolling Mills & Equipment Co. of Mexico City were used in each weld. The contractors used both Smithweld and Oxweld acetylene equipment. Oxygen for this work was furnished the contractors by the Tampico Oxygen Producing Co. in Tampico and by the Compania Mexicana de Soldadura Autogena, S. A. in Mexico City. Following the firing line crew came the bellhole welders who likewise used a heavy steel clamp to properly join each section into a continuous line. There were an average of four bellhole welders working at all times and the sections were pulled into place by Monarch 35s and caterpillars 30 winch tractors. As sections were welded into a continuous line, the ditching, painting, asphalting, lowering and backfilling crews followed immediately, finishing the line ready for water test. The paint and asphalt used on this line were products of the Compania Mexicana de Petroleo "El Aguila," S. A. After pipe was connected in a continuous line, it was thoroughly cleaned and given one coat of Permadura No. 2 cold paint and when the paint was thoroughly dry, it was given one coat of hot asphalt R-2 while pipe was being lowered into the ditch. The ditch required for this line was 18 inches wide by 30 inches deep. In accordance with the petroleum regulation, it was necessary to test the line in 30-kilometer sections with an 800-pound water test. Therefore, block valves were placed each 30 kilometers and later removed after test was made. The entire line was subject to an 800-pound water pressure test and to assure a clean line, a 10-inch go-devil was run with water pressure through the entire line.

Construction of Line

Actual construction of line by the contractors, Ingenieros y Contratistas "Martin," S. A., was started September, 1930, by Compania Mexicana de Petroleo "El Aguila," S. A. new refinery site at Atzcapotzalco, kilometer 223+615 which is the termination of the line at Mexico City. From this point the welding, ditching and treating and backfilling was carried on to kilometer 89+482, or a distance of 134+133 kilometers. As this section of the line passes through the mountain valleys and consisted more or less of flat ground, the construction was not difficult. A general average of 10 welds to each welder was maintained through this entire section and in the more flat country there were a number of days when welding 18-joint sections, each welder would average 18 and 19 welds to the man. The contractors employed over 45 Mexican welders with Mexican foremen in the construction of this line.

December 30 a second construction crew was started at kilometer 89+482, working towards kilometer 45. Through this section, Martin & Co. met its most difficult pipe line problems, as it was working in a rough mountain country. From kilometer 45 to 65½ the section over which the right of way passed was impassable for transporting equipment with heavy loads, making it necessary to drag all pipe on to right of way by winch caterpillars. It was likewise impossible for the contractors to use the larger 50 and 100-pound acetylene generators and they were forced to use 25-pound Smithweld red head generators that could be packed on to right of way by hand. Water for generators was packed on mule back as well as carbide, oxygen, welding rod and other supplies.

On April 20, 1931, a third construction crew was started at kilometer 0, Palma Sola, working towards kilometer 45. The slowest progress made on the entire line by the contractors was between these two points, which was not due to the difficult pipe line problems, but due to continuous rainfall, making

(Continued on Page 78)

FLOODS IN THE EAST TEXAS FIELDS

Conservation Hearings Set in Texas

Van Field to Be Taken Up February 11, East Texas February 12 and Panhandle February 15. High Gas-Oil Ratio Wells Cited

AUSTIN, Tex., Feb. 1.—A hearing for the promulgation of new oil and gas conservation rules and administration in the East Texas oil field has been set by the Railroad Commission for February 12, to be held at Austin.

The long-deferred hearing will be for the purpose of setting up machinery under the conservation law to regulate production and operations when martial law is lifted or in case it should be displaced by federal court order in the pending Constantin-Wrather proceedings against Gov. Ross S. Sterling, Brig. Gen. Jacob F. Wolters, martial law commander, and others.

Under martial law the East Texas production limit is 100 bbls. per day per well. Gov. Ross S. Sterling on two occasions recently publicly urged the Railroad Commission to hold the hearing and set up rules under which the field would be operated if martial law were displaced.

East Texas Hearing

Chairman C. V. Terrell of the Railroad Commission announced the East Texas order as follows:

"It is hereby ordered by the Railroad Commission of Texas that notice be given to all interested parties that said commission will at 10 o'clock a. m., on Friday, February 12, 1932, in its hearing room in the capitol at Austin, Tex., reopen for public hearing the matter of conservation and prevention of waste of crude oil and natural gas in the East Texas Field in Upshur, Gregg, Rusk and Smith Counties, Texas, for the purpose of considering the adoption of rules, regulations or orders for the prevention of waste of crude oil and natural gas in said field and for the further purpose of adopting rules, regulations or orders for the enforcement of or pertaining to the common carrier and common purchaser laws of the State of Texas pertaining to crude oil and natural gas.

"Pursuant to said hearing the commission will enter such orders as in its judgment the facts presented at said hearing may justify."

Panhandle Hearing

Two other conservation hearings also were announced by the Railroad Commission. A hearing on oil and natural gas conservation in the Panhandle area was set for February 15 in Pampa, Tex., when particular attention will be given to the prevention of waste of natural gas. The Panhandle order follows:

"It is hereby ordered by the Railroad Commission of Texas that notice be given to all interested parties that said commission will at 10 o'clock a. m., on Monday, February 15, 1932, at the City Hall in the city of Pampa, Tex., reopen for further hearing matter of conservation and prevention of waste of crude petroleum and natural gas in the Panhandle district, for the purpose of considering the adoption of further rules, regulations or orders for the prevention of waste in the Panhandle district of Texas, as defined in notice of hearing entered in the above cause September 18, 1931.

"At said hearing the commission will give special consideration to the prevention of waste of natural gas, and pursuant thereto hereby directs the owners and operators of wells included in the attached schedule, to appear and show cause, if any there be, why said wells shall not be shut in, reconditioned or repaired for the purpose of preventing the waste of gas therefrom. The owners and operators of said wells are hereby directed to immediately, and in advance of said hearing, file with J. M. McDonald, deputy supervisor of the Oil and Gas Division of the Railroad Commission of Texas, Box 1016, Pampa, Tex., log or completion record of each of said wells showing the method in which each well is at present completed and showing the complete casing record of each well as it now exists."

The commission made public a list of about 100 wells listed as those of high gas-oil ratio, located on the north edge of the gas reserve, on which it directed operators to furnish logs in advance of the hearing.

Van Field Hearing

Hearing was set for Austin, February 11, on rules for the Van Field of Van Zandt County, with that on new rules for the East Texas Field to follow at Austin February 12, as follows:

"It is hereby ordered that notice be given to all interested parties that the Railroad Commission of Texas will at

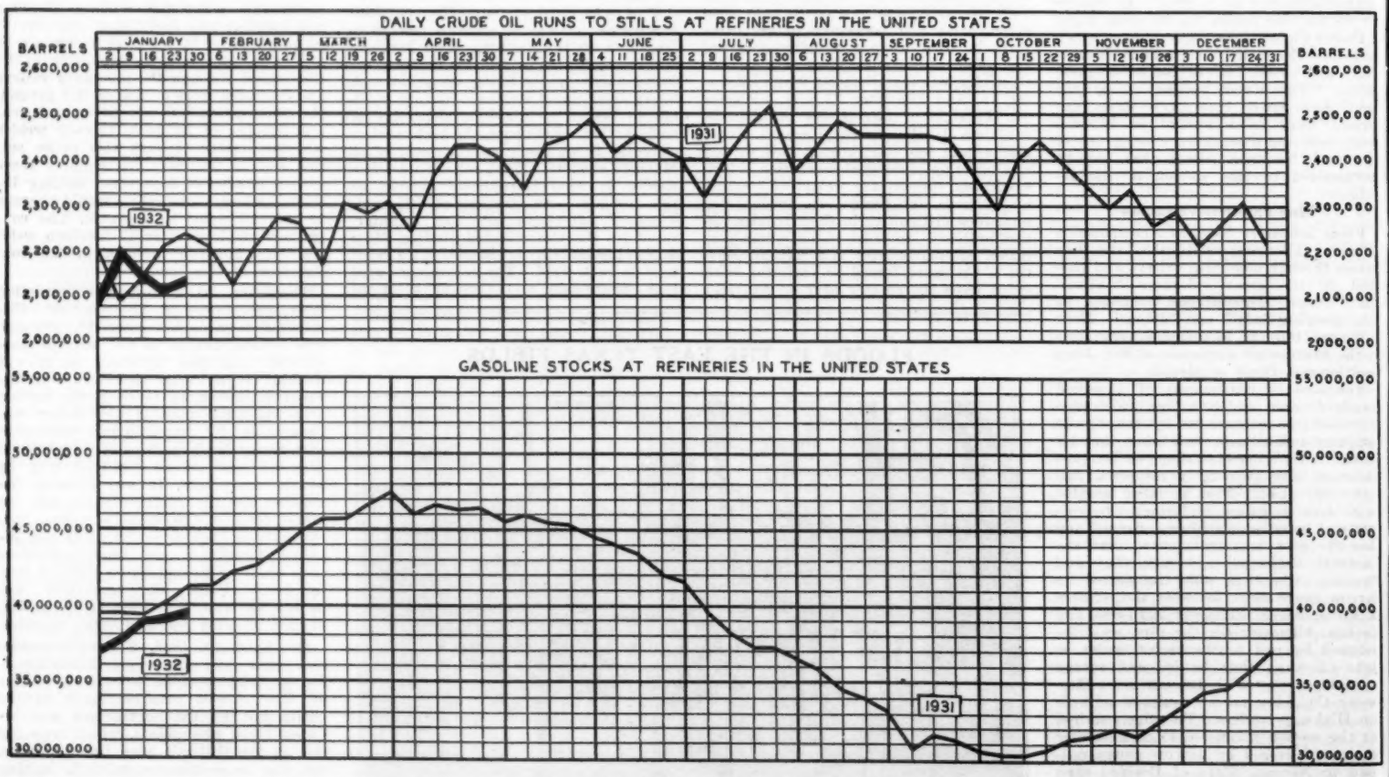
(Continued on Page 67)

AMERICAN PETROLEUM INSTITUTE WEEKLY REFINERY STATISTICS

The weekly report made to the American Petroleum Institute on refinery statistics—crude runs to still, gasoline stocks and gas and fuel oil stocks in barrels—for the week ending January 30:

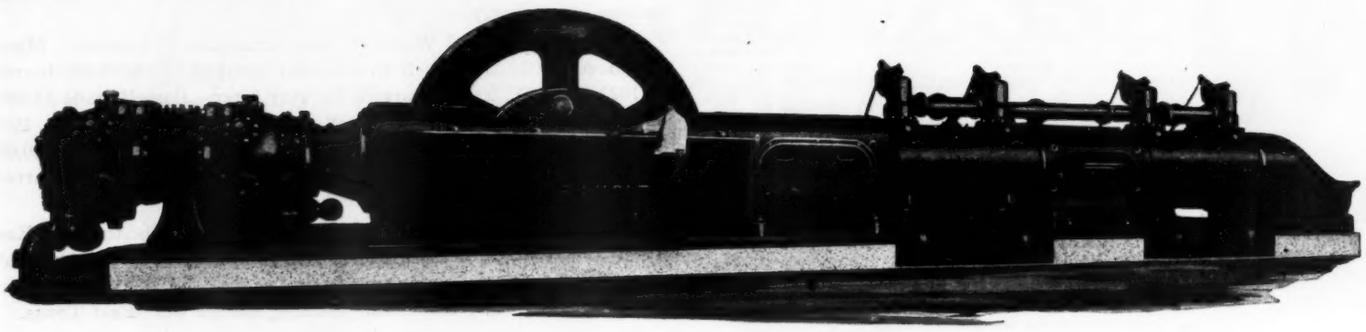
	Week ending January 30				Week ending January 23				Week ending January 31, 1931			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	452,300	4,977,000	7,451,000	100.0	410,400	4,891,000	7,746,000	100.0	461,000	6,913,000	8,219,000
Appalachian	91.8	72,700	1,517,000	1,376,000	91.8	84,900	1,463,000	1,395,000	93.8	85,300	1,252,000	1,056,000
Indiana, Illinois, Kentucky	98.9	248,700	4,733,000	5,061,000	98.9	250,600	4,574,000	5,152,000	97.5	248,000	4,806,000	2,988,000
Oklahoma, Kansas, Missouri	89.6	204,700	3,483,000	3,707,000	89.6	222,400	3,351,000	3,826,000	89.4	235,300	2,933,000	3,833,000
Texas	91.3	503,400	8,826,000	10,851,000	91.3	523,000	8,497,000	10,789,000	91.9	551,000	6,856,000	9,926,000
Louisiana and Arkansas	98.9	148,200	1,365,000	4,035,000	98.9	157,300	1,250,000	4,166,000	98.3	137,700	1,438,000	2,415,000
Rocky Mountain	89.4	40,200	1,865,000	737,000	89.4	41,100	1,746,000	726,000	93.1	33,800	1,737,000	949,000
California	97.1	440,400	13,980,000	96,201,000	97.1	452,400	13,966,000	96,121,000	98.8	465,300	15,722,000	102,321,000
Total United States	95.2	2,110,600	40,746,000	129,419,000	95.2	2,142,100	39,738,000	129,921,000	95.7	2,217,400	41,657,000	131,712,000
Texas Gulf Coast	99.8	384,900	6,953,000	8,054,000	91.8	401,400	6,637,000	7,987,000	100.0	434,900	5,710,000	7,470,000
Louisiana Gulf Coast	100.0	100,600	1,233,000	3,184,000	100.0	111,600	1,123,000	3,300,000	100.0	96,700	1,312,000	1,390,000

(1) Per cent refinery capacity represented. (2) Daily crude runs to stills. (3) Gasoline stocks. (4) gas and fuel oil stocks.



All data based on weekly reports of the American Petroleum Institute. Figures for last week not shown in graph but are included in above table.

Built Solid and Strong *for* Maximum Rigidity

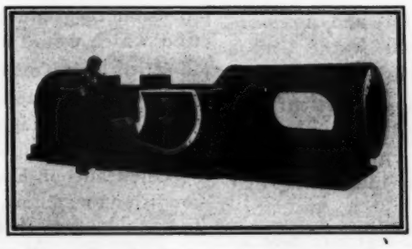


TRANSIT TWIN TANDEM - 1200 H. P. - FOUR CYCLE - DOUBLE ACTING
DIRECT CONNECTED - OPPOSED TYPE - GAS ENGINE COMPRESSOR

THE TRANSIT 1200 horse power gas engine gas compressor has been carefully designed and built for maximum strength and rigidity. It is not a mass of iron or steel hurriedly designed and thrown together.

There are no novelties. Only those constructions which have been proved by many years of experience in the building of gas engines have been retained.

The main frame is the backbone of an engine. In this engine it is cast in one piece. The frame is of the barrel type construction with a heavy box section for the crank pit. This combination of barrel and box construction insures great strength and rigidity. The heavy box section in which the main bearings are located is carried well above the center line of the cylinders for additional strength and rigidity. The weakening effect of the gap in the frame is entirely eliminated by a tie bolt.



MAIN FRAME

To take care of the load transmitted by the power cylinders with the least possible moment on the shaft, the bearings are kept short and located as near the center line of the cylinders as is possible. The main bearings are of the quarter box type and are 16-½ inches in diameter.

The main shaft is 16-½ inches in diameter throughout its entire length.

As set forth above, and in every detail, great strength and rigidity is the rule—there are no exceptions.

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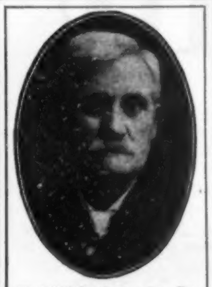

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THE FEAR OF EAST TEXAS

The fear that East Texas may again run wild is said to be holding back recovery in the oil industry.

Buyers who think there is a possibility of another flood of cheaper oil and consequently cheaper gasoline are described as reluctant to buy at present prices and waiting to see what happens.

It is a very natural attitude, if there is such danger. But is there?

The Texas Railroad Commission has called a hearing for February 12 on which to base new regulations when military control is removed.

Under the law enacted by the special session of the legislature the commission is empowered to issue orders for the prevention of waste, due, among other causes, to the intrusion of water or "waste incident to or resulting from the unnecessary, inefficient, excessive or improper use of the gas, gas energy or water drive or to inequitable utilization of natural forces" in producing the oil. It is prohibited from considering economic waste, or price, but the prevention of physical waste will take care of the other.

The right of a legislature to legislate against waste and unreasonable production of oil and gas was clearly upheld by the United States Supreme Court in the California case in November.

In that case an oil company sought an injunction against enforcement of the California conservation law which had been upheld by the District Court of Appeals of that state. The United States Supreme Court sustained the power of the State court in refusing that injunction.

The "constitutional right of the Legislature to legislate against waste and unreasonable production of oil and gas to the extent that may infringe the correlative rights of owners" was thus established by the highest tribunal.

In the light of that ruling it is difficult to see how such a regulation for East Texas, put into effect by the State Railroad Commission on authority of the legislature, can be successfully challenged.

If protested, it would probably be months before a final decision could be rendered and East Texas as a menace would have passed into history.

For, while East Texas is undoubtedly the world's greatest oil field, that very fact tends to exaggeration. Its potential is enormous but like Einstein's relativity it has to be considered in a time-space aspect.

In volume it seems overwhelming but the possibilities of immediate production are strictly limited. Any attempt to hasten production beyond certain limits would tend to reduce the ultimate volume. There is a lot of oil, probably enough to dominate most of the year, but there are already indications that the field is passing through its peak flush stage.

It has been the uncertainty regarding the field's capacity that has been most disturbing. Once its measure is approximately taken the industry will know exactly where it stands and can make calculations accordingly.

Mexia, Powell and Wortham were examples of interest. Mexia produced 35,000,000 barrels in 1922 and dropped to 19,000,000 barrels in 1923 and to 11,000,000 barrels the year after. Powell made 33,000,000 barrels in 1924 and dropped to 17,000,000 barrels in 1925. Wortham made 16,000,000 barrels in 1925 and dropped to 2,000,000 in 1926. There was a fall from the Powell peak of 355,000 barrels daily to 90,000 barrels in five weeks.

Wells were more closely spaced in those fields than in East Texas but they offer a picture of what happened when such fields are drilled without conserving regulations and are a sufficient warning against any effort for "kicking the lid off" East Texas.

Frenzied production bringing in water could ruin East Texas as easily as it ruined those fields.

Instead of a flood of cheaply produced oil from flush wells toc eager operators would find they were hastening the day when they would have to resort to pumping at much higher cost. The notion that opening the field wide would release an ocean of cheap oil is more likely to be disappointed because excessive production would bring in water and increase production costs, besides cutting down the ultimate output.

The more immediate effect of any turning loose of the field would be a return to the market conditions that existed before martial law was established. Oil might, for a time, be produced so cheaply and offered so cheap that it would benefit nobody.

That experience was so convincing and so conclusive that it seems impossible there should be any disposition among royalty owners and operators to risk its return.

The successive reductions in allowable per well by Governor Sterling were recognized as necessary and it has even been suggested that a further reduction to 75 barrels per well might be required to promote ratable purchases throughout the field, equal market opportunity for all producers.

How the oil men of East Texas regard this proposal is shown by the statement of Charles F. Roeser, president of the Texas Oil and Gas Conservation Association, that "as a producer I do not welcome the reduced production but I would rather have it than the alternative, which would undoubtedly be a lesser price".

With East Texans taking that view of it their co-operation with whatever regulations the Railroad Commission may issue is assured, and it is this co-operation among the oil men themselves that will be the determining factor in East Texas.

One leader in East Texas is quoted as saying that "under present conditions we know exactly where our oil is going, who is buying it and to whom to look for payment. I do not believe you will find many people in this country that want to see a return of last summer's conditions when thousands and thousands of barrels of oil was stolen and for which not one cent of royalty was paid".

East Texas has been through it and knows. It was fortunate that its field was saved from destruction by timely regulation. It can look forward to years of steady and profitable production instead of having only a hectic recollection of a wasteful "boom" that squandered its oil for next to nothing and exhausted its supply long before the potential was recovered.

For that experience it is not likely that East Texas will tolerate any return to the anarchy of last summer. Ways and means will be found to prevent it.

"Gas for CHICAGO" meant a DRESSER-COUPLED Line

A BOLD plan realized. The Texas-Chicago line. Nearly a thousand miles of 24-inch pipe operating under pressures up to 800 pounds. Construction and upkeep expense held at the lowest practicable minimum because of Dresser Couplings—used for speed and ease of joint-making, for continued flexibility, for permanent tightness. The long gas lines are always Dresser-Coupled.

S. R. DRESSER MFG. CO.
BRADFORD, PA.

New Developments in Operation of Gyro Process

* * * * * *

By Dr. W. W. Holland
Pure Oil Co.

The Gyro process operates at low pressure and is adapted to handling any grade of charging stock, producing therefrom a motor fuel having an exceptionally high antiknock rating. Reference to the flow sheet will show the main elements and the movement of the oil through the system.

The charging stock enters through a spray nozzle in the arrester (C) where it comes in contact with the hot vapors from the converter (I), reducing the temperature from approximately 1,100° to 600° F. The liquid from the arrester, together with the condensed vapors, passes by gravity to the hot oil reservoir (D) in the bottom of the fractionating tower (J). The distillate or condensed vapors from the top of the tower have a boiling range comparable with the motor fuel desired. The boiling point is controlled by means of a refluxer (O) which may be operated for the production of steam used in the process. The steam produced in this manner is more than enough to operate all of the pumps and to supply that used in the process. This steam may be produced under any desired pressure, from 30 to 125 pounds. Gas from the separator (L) is led to the compressor for the recovery of liquefiable motor fuel.

The unvaporized fresh charge and condensate from the fractionating tower which collects in the reservoir (D) is pumped to the economizer (F), a constant level in the reservoir and the quantity of hot oil fed to the economizer being regulated by automatic control. The rate of flow is so maintained that the converter is constantly supplied with the correct amount of vapor. Any excess hot oil may be returned through heat exchangers to the charging stock tank (A).

The oil leaves the economizer at about 700° F. temperature and enters the evaporator (G) where the fuel oil or residuum is withdrawn from the system through heat exchangers and a cooling coil to tank (R). Superheated steam is introduced through perforated coils in the bottom of the evaporator in quantity not to exceed 3 per cent by weight of the vapor produced. The vapor and steam leaving the top of the evaporator pass through a separator (H) which removes entrained particles of liquid, thence to a series of drier tubes which insures only dry vapors entering the converter. In passing through the converter the temperature of the vapors is raised to approximately 1,100° F. and the conversion or cracking into lighter hydrocarbons takes place at this point. The vapors are distributed by appropriate means through the converter tubes.

Charging Stocks

While this process will handle any grade of charging stock, ranging from heavy reduced to straightrun naphtha, it is equally well adapted to cracking highly refractory cycle stocks such as are produced in liquid phase cracking operations and which cannot be economically further cracked in the liquid phase. Gyro gasoline from this source has very high antiknock properties, with an octane number around 90 or higher. Kerosene, naphtha bottoms and other more or less refractory light stocks yield readily to vapor phase cracking.

In normal refining operations there is usually a considerable quantity of heavy straightrun naphtha which cannot be blended in regular or premium grades of gasoline on account of its low antiknock properties. The profitable disposition of this naphtha has presented a serious problem and has resulted in marketing a third grade gasoline at a reduced price for use in low compression motors. When this heavy naphtha is blended to gasoline specifications it represents a substantial percentage of the total refinery gasoline production, and when sold at such a low price it means a considerable loss to the refinery.

The knock rating of this material may be improved by subjecting it to treatment in the liquid phase at high temperatures and pressures, but whether or not the degree of improvement justifies the expense is a much mooted question. The Gyro process is being used extensively at the present time to avoid loss of this heavy naphtha. It offers a means of effectively and economically converting such heavy naphtha into a high grade product. By the use of this process at least 97 to 98 per cent of the total gasoline production may be blended into the preferred grades without the necessity of sacrificing the straightrun gasoline at third grade prices.

By means of new developments in the Gyro process, topped crude is now being run so as to produce 55 to 60 per cent of 420 endpoint distillate. This desirable end is achieved without loss of antiknock value or decreasing the length of runs.

By means of still other recent developments dry gas is being converted into gasoline, yielding between 3.5 and 5 gallons per 1,000 feet. Such gasoline has an octane number of about 95 and readily yields to treatment.

Large Yields

With the newest commercial developments, the Gyro process is producing from topped Mid-Continent crude between 65 and 70 per cent of 420 endpoint distillate. This distillate is being refined into a water white, stable product of about 85 octane number, with a treating and rerunning recovery of 90 per cent or higher. Gyro distillate is composed almost entirely of aromatics and olefins, with a small percentage of naphthenes. It is well known that distillate of this character would not lend itself readily to the usual methods of treating and this presented one of the major problems in perfecting the Gyro process.

A distillate containing a high percentage of olefines and diolefines is an excellent motor fuel if properly refined. The highly colored compounds which are always present in vapor phase cracking distillates are very stable and difficult to remove without the loss of a considerable portion of the desirable fractions. The problem, therefore, was to devise a method which would selectively remove the undesirable colored compounds and those unsaturates which readily oxidize to form pseudo-gums, without the unnecessary destruction of the valuable motor fuel fractions.

Considerable study of the problem led to the development of a process which is easily controlled and has proven more economical than other methods of treating. This process provides a continuously operating system wherein the oil to be treated is introduced into one end of the system and after treatment is removed at the other end, and is so regulated as to procure the maximum efficiency and to positively and effectively remove the undesirable materials from the treated oil. (See The Oil and Gas Journal, December 31, 1931, page 22.)

The distillation range of finished Gyro motor fuel differs from that of ordinary gasoline, being richer in low boiling point fractions, thereby increasing its value as a blending agent. Its low sulphur content, in comparison with liquid phase cracked gasoline, is also worthy of mention. This is of special interest when the source of charging stock is from high sulphur crudes. Its gum content, as determined by the air jet method, is 1 to 3 milligrams per 100 cubic centimeters, with an induction period of four hours. Gasoline of this character may be stored for any reasonable length of time.

Coking Operation

The Gyro process may be operated for the production of any grade of fuel oil, heavy residuum or coke. In the coking operation, the hot vapors from the converter are diverted from the normal arrester (C), into a coking chamber where it is brought into intimate contact with the hot oil residue which is pumped into the chamber from the bottom of the evaporator. The vapors leaving the top of the chamber enter a secondary arrester where the temperature is reduced to about 600° F. by the introduction of fresh feed stock and pass on to the fractionating tower as noted above.

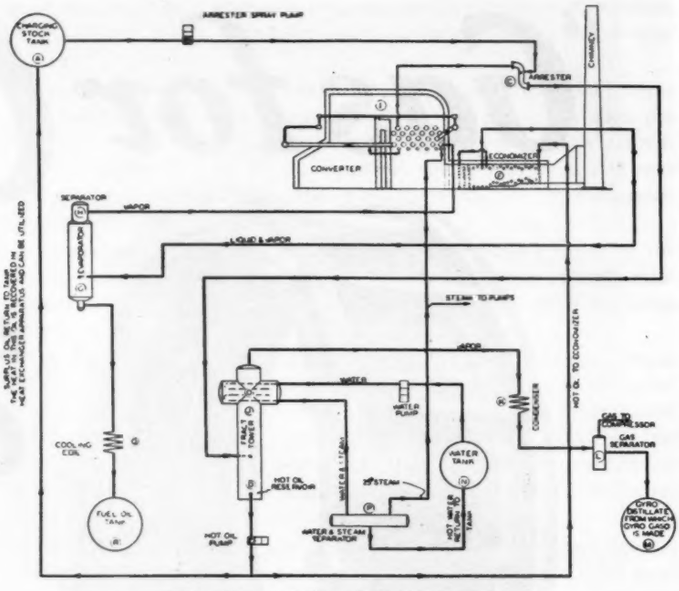
The coking operation has proved very successful, producing a good grade of dry coke suitable for domestic use, or it may be pulverized and used as plant fuel. The coking chambers are in duplicate and operate alternately, one filling up while the other is being cleaned. It requires about 36 hours to fill the chamber three-fourths full of coke, the amount which has been found by experience to be easily handled. This amounts to approximately 36 tons of coke. A 1,000-bbl. Gyro unit produces about 1 ton of coke per hour and the above cycle of operation allows ample time for cleaning.

Polymerization of Dry Gas

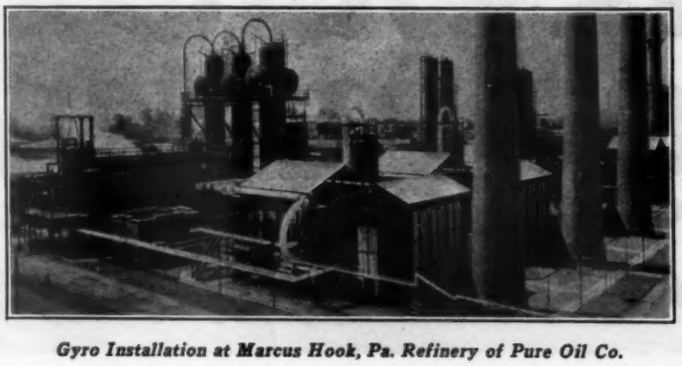
Polymerization of dry gas from the absorption plant has been operating on a commercial scale for the past eight months, with highly satisfactory results, producing an average of 3.9 gallons of condensate per 1,000 feet of gas processed, 90 per cent of which is recovered as finished gasoline having an octane number of 95 to 100. The cost of gasoline from this source is comparable with that from the Gyro cracking. The combined coking and polymerization operations increase the yield of finished gasoline 15 to 20 per cent, depending upon the grade of charging stock.

The cost of vapor phase cracking is practically identical with that of the liquid phase operation. An accurate compilation of all items of cost over a period of four months showed a fraction of 1 cent per barrel charged in favor of the vapor phase process. Yields from the liquid phase operation are slightly higher when coking and gas polymerization are not combined with vapor phase cracking, but when these are taken into consideration the advantage is decidedly in favor of the vapor phase process. The

(Continued on Page 67)



Flow Chart of Gyro Cracking Process



Gyro Installation at Marcus Hook, Pa. Refinery of Pure Oil Co.

A Dubbs cracking unit, by itself, can always earn a profit

Do you know any crude stills showing a profit today?

Dubbs cracking makes anti-knock gasoline at low cost from the cheapest of charging stock—octane number as high as you need

The crude stills make knocking gasoline from (high cost) light crude—gasoline that nobody wants

Why make poor gasoline expensively to degrade your good Dubbs cracked gasoline?

Crack all the crude instead of skimming it

Make all Dubbs cracked gasoline

Universal Oil Products Co
Chicago Illinois

Dubbs Cracking Process
Owner and Licensor

OUSTER TRIAL OPENS; SERVICE CHALLENGED

AUSTIN, Tex., Feb. 2.—Atty. Gen. James V. Allred's antitrust ouster suit against 15 oil companies and 2 petroleum marketing associations was called at 2 p.m. Tuesday with pleas in abatement and arguments over the question whether four major corporations are in court to be taken up first. No answer had been filed by the Socony-Vacuum (Standard of New York), the Standard Oil Co. (Standard of New Jersey, the Standard Oil Co. of California and Shell Union Oil Corp., upon whom the attorney general asserted he has completed service since the case was postponed in January because of nonservice upon them.

The companies, through amicae curiae, were to assert imperfect service because none of the property of any of the companies had been brought within jurisdiction of the court, as one of the two essentials of citation. Mr. Allred, during the last month, has sent notices of citation by agents and had them delivered personally to officials of the four corporations, he stated here.

The American Petroleum Institute has filed an answer following the nature of the corporations', asserting the pleading vague in failing to recite details of individual agreements or transactions under the marketing code assertedly contrary to the Texas antitrust law.

Late Fields

SOUTHWEST TEXAS

SAN ANTONIO, Tex., Feb. 2.—Magnolia Petroleum Co.'s (Vacuum) No. 1-B Duval Land Co., Survey 96, in northwestern Duval County, tested salt water in sand at 1,653-58 feet and is drilling deeper. Its No. 1 Seeligson, in southern Jim Wells County, on drill stem test showed a little oil in sand at 3,414-20 feet and is coring to make another test. F. H. Eckert and others' No. 1 Edwards, a few miles southeast of San Antonio, a wildcat at 1,275 feet, is running a little high in basal Taylor and is attracting some attention as an Edwards lime possibility. Simms Oil Co.'s No. 1 Stropkey, in Slick Pool in Goliad County, has been abandoned at 4,450 feet. Slick-Seeligson, Inc.'s No. 3 Rey, in Pettus Field, an east offset to The Texas Company's No. 1 Gremmel, gauged 287 bbls. in 17 hours on five-eighths-inch choke with 180 pounds on tubing and 420 pounds on casing.

GULF COAST

HOUSTON, Tex., Feb. 2.—Pure Oil Co. failed to break the Gulf Coast deep production record when its No. 5 Yount Lee Oil Co., Sweet Lake, Cameron Parish, Louisiana, tested salt water in sand at a total depth of 7,456 feet. This well, which was expected to make a good producer, was 9 feet deeper than Yount Lee Oil Co.'s No. 7 Housierre-Latrielle, southeast of the Jennings Field, Acadia Parish, which at 7,447 feet is the deepest production so far on the coast.

OKLAHOMA

Production from the Oklahoma City Field on February 1 was 38,047 bbls. from 80 wells. The production on January 31 was 97,915 bbls. from 143 wells.

Operations in southern Oklahoma were increased by four locations in the new pool 5 miles south of Duncan, in Stephens County. The new operations were the result of the Continental Oil Co.'s No. 1 Dare, NE cor. SW SE, Section 2-2s-8w, which blew wild for 20 hours making 8,500,000 feet of gas a day and an estimated 50 bbls. of oil a day, from a stray sand at 1,433-38 feet.

New locations include Continental Oil Co.'s No. 2 Dare, NW cor. SW SE, Section 2-2s-8w, a south offset to P. L. Gilbert's No. 1 Dare, which made 100 bbls. of oil a day from sand at 1,360 feet. Dunmar Oil Co.'s No. 1 Dunham, NW cor. NE NE, Section 11-2s-8w, a southeast offset to the Continental Oil Co.'s well. G. L. Pace's No. 3 Allen, NW cor. SE SE NE, Section 3-2s-8w, west of the Continental well. J. C. Chambers' No. 1 Pollard, NW cor. SE SE, Section 2-2s-8w, was a rig on the ground. Gilbert and others' No. 1 Green, SW cor. SE NE, Section 2-2s-8w, was drilling at 1,200 feet. M. C. Brown and others' No. 1 Thompson, NE cor. SE SW, Section 35-1s-8w, a half mile northwest of the Continental well, was drilling at 2,100 feet.

Details of the allocations of pipe line shipments, from leases in the Oklahoma City Field, were discussed at a meeting of producers and pipe line representatives, with Ray Collins, state umpire and recently named pipe line umpire in the Oklahoma City Field. Ray Collins expects to work with the pipe line companies and aid all the producers in the field to get proper connections and an assured outlet for each well even with the proration order, during the coming months.

It is believed by the umpire's committee of the Oklahoma City Field that the umpire system can be dispensed with upon the removal of the underage oil, which has accumulated in the field for several months. Practically all the pipe line companies in the field have agreed to the pooling of their gathering systems so that oil may be transported easily and that transfers can be made.

Barnsdall Oil Co.'s No. 1 in the SW cor. NW, Section 17-14-5, a wildcat in Lincoln County, was drilling around 4,450 feet, expecting to reach the Hunton lime in the next few days.

KANSAS

E. U. Engler and others' No. 1 Balzer, SE cor., Section 36-22-4w, Reno County, is rigging up. Some of the material has been taken to the location, but because of bad roads work has been delayed.

In the Welch Pool, in southeastern Rice County, Allison-Fitzwilliams Petroleum Corp.'s No. 1 Walsten, in Section 2-21-6w, is nearing the pay horizon. It has been shut down owing to engine trouble and to the lack of fuel. An underreamer has been stuck in the hole and has delayed progress for some time.

A. Markus, C. W. Cross, R. Findeiss and others' No. 1 Kink, NE cor., Section 36-24-12, in the Beavers Pool, Greenwood County, is estimated to be a 100-bbl. well from the Bartlesville sand at 1,638-58 feet. Oil rose 500 feet in the hole in a few hours. It will be given a 100-quart shot.

Proration in the Eastborough Pool, Sedgwick County, has been revised and the Derby Oil Co. has withdrawn its injunction suit against the Kansas Public Service Commission. Operators in the field agree that the Derby Oil Co. was entitled to produce as much oil as the offset leases, and the commission raised its allowable to 2,082 bbls. a day the same as the Magnolia Petroleum Co.'s allowable. The commission also held that the allowable would not be increased for the next month, regardless of how many wells were completed. Potential on several leases were revised.

Stanolind Oil & Gas Co., Rosenthal and others' No. 1 Gray, C NE Section 11-24-13w, a wildcat in Stafford County, has been abandoned at a total depth of 4,052 feet. It was plugged back to 3,872 feet, where a showing was found. A production test proved the showing was not commercial.

In the Winfield Townsite Pool, Cowley County, Prairie Oil & Gas Co.'s No. 3 Dibbins, SW cor. NW NE Section 22-32-4, in the townsite, was completed for 140 bbls. a day from the Siliceous lime at 3,311-26 feet.

J. A. Robertson and others' No. 1 Stratman, in Section 1-17-10w, in the southwestern part of Ellsworth County, had a hole full of oil from the Siliceous lime at 3,265-74 feet. The operators planned to swab the well to determine its potential.

The Kansas Public Service Commission is expected to change its proration order in the Barton or Ellsworth Arch area. The new order will permit the owners of wells to take a 24-hour potential and then pinch in the wells to 15 per cent of potential. At the present time, operators are allowed to take a five-day potential and then produce 500 bbls. a day for 30 days, and then pinch the wells to 15 per cent of their potential.

DELAWARE GAS ELECTION

DELAWARE, Ohio, Feb. 1.—T. C. Jones was re-elected president of the Delaware Gas Co. at the annual meeting of directors. F. P. Hills was elected vice president and John Shoub was elected secretary and treasurer. T. C. Jones, F. P. Hills, R. E. Hills, J. F. Shoub and C. G. Lewis were elected as directors.

THE OIL MAN'S CALENDAR

February

9—Louisville, Ky., Kentucky Petroleum Marketers Association, Brown Hotel.

9-10—Des Moines, Iowa, eleventh annual convention, Iowa Petroleum Association.

15-18—New York annual meeting A.I.M.E.

17-18—Springfield, Ill., Illinois Petroleum Marketers' Association, Leland Hotel.

22—Greensburg, Pa., Western Pennsylvania Petroleum Marketers Association, Penn Albert Hotel.

23-25—Columbus, Ohio, Ohio Petroleum Marketers Association, Deshler-Wallick Hotel.

March

14-18—New Orleans, La., American Chemical Society.

21-27—Los Angeles, Calf., third annual Oil Equipment and Engineering Exposition.

23-25—Detroit, Mich., Michigan Oil Men's Association, Statler Hotel.

24-26—Oklahoma City, Okla., American Association of Petroleum Geologists.

28-Apr. 1—New Orleans, La., American Chemical Society.

April

2-10—Detroit, Mich., National Aircraft Show.

6-8—Birmingham, Ala., Distribution Committee, Technical Section, American Gas Association.

11-16—Boston, Mass., ninth annual convention, American Oil Burner Association.

21-22—Cleveland, Ohio, semiannual meeting, National Petroleum Association.

22-24—Dallas, Tex., Petroleum Industry Electrical Association, Baker Hotel.

27-29—White Sulphur Springs, W. Va., National Pipe and Supplies Association, Greenbrier Hotel.

May

4-6—Honolulu, Hawaii, National Foreign Trade Council.

9-11—Tulsa, Okla., Natural Gas Department, American Gas Association.

9-13—Atlantic City, N. J., National Fire Protection Association.

17-19—Tulsa, Okla., Natural Gasoline Association of America, Mayo Hotel.

June

1-3—Tulsa, Okla., mid-year meetings, American Petroleum Institute, Mayo Hotel.

6-9—Detroit, Mich., National Association of Purchasing Agents.

20-24—Atlantic City, N. J., American Society for Testing Materials.

High Spots in Field News

CALIFORNIA

New deep zone in North Belridge area, may extend to Lost Hills and South Belridge. New well in Ventura avenue.

SOUTHWEST TEXAS

Better showing in Escobas Field. Gas in Northern Jim Wells County wildcat. New tests in Saxet Field planned.

KANSAS

Ritz-Canton well makes 5,200 barrels. State production stays well below 100,000 barrels. Litigation over proration.

NORTH LOUISIANA, ARKANSAS, MISSISSIPPI

Two Zwolle semiwildcat extensions, one 3,000 barrels initial and other 2,000 barrels. Mississippi gets another good gas well.

OKLAHOMA

New conservation order reduces Oklahoma City 25,000 barrels to 95,000 barrels daily. Reduce drilling in new Sacred Heart Pool.

GULF COAST

New field opened in Victoria County. Sweet Lake test which promised to be deepest producer on coast proves disappointment.

ROCKY MOUNTAIN AREA

Colorado oil interest shifts westward. Gas strike on Craig Dome. Discovery in Rio Blanco County and deep test on Rangely Dome.

WEST TEXAS, NORTH TEXAS AND PANHANDLE

Deep test planned in Crockett County. Ward County continues most active area. Five locations in Ranger district and 12 in Wichita Falls area, with four in Panhandle.

EAST TEXAS

Lathrop extension well in Upshur County flows 60 bbls. in 30 minutes but is in dangerous condition. Second dry gas well completed in field. Sixty-eight locations during week and 72 completions.

Upshur Well Proves Disappointing

Makes 60 Bbls. in 30 Minutes but Is in Dangerous Condition. Second Dry Gas Well. Sixty-eight Locations and 72 Completions

By L. E. Bredberg

DALLAS, Tex., Feb. 2.—Cranfill & Reynolds' No. 1 Rash, Upshur County, may make a well if carefully produced by skimming oil off water. Swabbing is likely to bring in salt water, consequently the owners are circulating the well with oil to produce it. Some scouts reported it was making a large per cent of salt water, others saying that the drilling water only tasted salty but cleared up. A shake out showed no water or basic sediment. It flowed 60 bbls. of oil in 30 minutes through casing but is not flowing through tubing. It extends the field 3½ miles to the north but does not cast a good appearance on the area as production is coming from below the water level and the well is in dangerous condition in that respect.

Total depth is 3,782 feet. This well is in the Eubanks Survey, southeastern Upshur County, and created considerable excitement and interest in November when it made a good showing on a drill stem test. Casing was cemented after the drill stem test was made, and the well stood shut down until last week when the cement plug was drilled. On January 29 the company started swabbing it. It then started flowing, and made the 250 bbls. of oil, when swabbing was again resorted to make it flow. The water increased as swabbing continued. Bottom of the hole stands at minus 3,399 feet, or 79 feet below the water level of the producing area.

Second Dry Gas Field

Stanolind Oil & Gas Co.'s No. 1 Ross Lacy in the J. H. Sparks Survey, on the extreme southern end of the field, Rusk County, is appearing as the second dry gas well for the field, making 19,000,000 feet of gas at 3,633 feet, coring sandy shale from 3,633-37 feet, and in core from 3,642-50 feet the first feet showed sandy shale, the last 2 feet proving hard sand which tasted salty. The test is now standing shut down for orders, appearing as if it would limit production in the southern tip of the Joiner area.

Last week Peyton Brothers completed a 60,000,000-foot gasser 3,800 feet to the northeast of this second gasser. The Peyton Brothers' gasser was the first gasser to be completed in the field. With the striking of dry gas in the second test on this end of the field, it would appear that a large gas producing area had been opened in this part of the field. Elevation of the second gasser is 318 feet, and bottom of the hole is minus 3,332 feet.

Disappointing Tests

Stanolind Oil & Gas Co.'s No. 1 Newsom in the Calvin Anderson Survey, northern Upshur County, is standing with bottom of hole at minus 3,441 feet, surface elevation 398 feet. It cored to the total depth, the last 2 feet of the core showing gray sandy shale with streaks of ash and hard sand, the sand showing water. A drill stem test was to be made today. Shale was cored from 3,821-35 feet and quartzite from 3,835-37 feet. Small hopes can be held out for this test making a producer.

Dunnigan and others' No. 1 Guest is another wildcat test in Upshur County which looks like a dry hole. It is coring at 3,802 feet in shale. Surface elevation is 376 feet, making total depth of the hole minus 3,426 feet.

Love and others' No. 1 Bain, located in the W. H. Williams Survey, approximately 4½ miles southwest of the above mentioned Stanolind-Newsom test, spells another "duster" for Upshur County. It filled 1,260 feet with salt water on a 6-minute drill stem test at a total depth of 3,797 feet. White sand was topped at 3,774 feet. Surface elevation of this test is 372 feet, making bottom of hole minus 3,425 feet, or 1 foot less than the above mentioned Dunnigan-Guest test.

Gulf Production Co.'s No. 2 Morris in the W. R. Cooke Survey, western side of the Kilgore area, Rusk County, which was reported last week as being temporarily abandoned at a total depth of 3,666 feet, tested 90 per cent salt water, was plugged back in an effort to shut off water, but showed 2,600 feet of salt water and 800 feet of oil in the hole, was abandoned.

The first well to be drilled and completed in Lake Deverna, Gregg County, Tidal Oil Co.'s No. 2 Lake Deverna gauged 70 bbls. in 20 minutes through open tubing from 3,495-3,532 feet. The latter is the total depth.

Locations and Completions

Locations in the East Texas district dropped to 68 this week, 18 less than reported last week, while completions fell from 89 of last week to 72 this week. Thirty of the completions were registered in north Gregg County.

Production of the district for the 24 hours ending at 7 a.m. January 30, was 370,784 bbls. and pipe line runs were 411,495 bbls. Total number of completed wells was 3,965, 176 wells not reporting, and 79 reporting no production.

There is considerable conjecture about what is to become of the field, whether or not the Railroad Commission will take over the field from the military authorities under which rule it has been producing since the forepart of September. The majority of operators and business men in the district do not want to see military rule lifted from the field. Another suit has been filed by an independent operator seeking an injunction against the military authorities, and seeking to flow his wells as he desires.

Pipe Line Connections

Pipe line companies are connecting with new wells slowly, but it is hoped that all such wells will be given connections so as to prevent any distress oil being thrown upon the market, thereby weakening it in the district. Runs to storage for the week ending January 27 showed that production had jumped approximately 13,000 bbls. during the seven-day period ending that day, while distribution remained practically the same as the previous week, distribution running about 9,690 bbls. daily under production, this amount going to storage.

Hudnall and Pirtle, consulting geologists of Tyler, who have been mapping the field, and keeping in direct contact with conditions, have published a new map on the district showing practically all wells that are making water, and also a majority of the pumpers. The map shows 55 water wells and 149 pumping wells in the district. The latter number probably includes those wells which are standing dead, or waiting for pumping equipment to be installed, and also wells that have to be agitated to make them flow. Agitation is done by swabbing or pumping.

Falls County Test

Falls County in East Central Texas is the latest area to gain recognition and interest from the oil fraternity in this part of Texas. C. C. Curtis' (Dixie Oil Syndicate) No. 2 J. T. Davis in the Pedro Zarza Survey, near the McLennan County line, encountering the top of the Georgetown lime at 1,002 feet and shutting down at that depth, making an estimated 150 to 175 bbls. per day flowing in open pit.

The well is 1,350 feet west of the river and 500 feet north of the south line of the Davis 3,418-acre tract, and 1,000 feet south of a dry hole which was formerly abandoned by the same company at a total depth of 1,400 feet.

It topped the Austin chalk at 580 feet and the Buda lime at 682 feet, logging the base of the latter at 883 feet. The oil tested 35 degrees gravity. There is no gas with the oil. The company is now running 6⅝-inch casing with packer to 1,000 feet, and a test will be made as soon as the casing is set.

Gurley is the nearest town to the well, which is approximately 5 miles northeast of the Chilton shallow gas field where production is found in the Buda. It is believed that the Davis well is really producing from the Buda instead of the Georgetown.

This county has never attracted much attention, although having a little production in it, and if the present discovery does not prove larger than now estimated, and if the production does not hold up, it too will probably attract but little attention from the majority of operators. Major companies are not expected to enter the district to any great extent, although independents will no doubt give it a lease and royalty play if the well holds up on production. The Dixie Oil Syndicate holds about 4,000 acres around the well, consequently the lease and royalty play will spread out from the immediate vicinity.

With 3,989 completed wells in East Texas, only 780 were producing on Sunday, January 31. There were 3,042 wells shut down, 37 wells shut down for physical reasons and 130 wells failing to report. Production for Sunday was 77,398 bbls. Pipe line runs for January 30 and 31 was 510,267 bbls. The number shut in shows a continued movement toward shutting in wells on Sunday, and thereby cutting production for the week.

Agitation has been started to cut production still further in East Texas, and curtailing the daily allowable per well from 100 bbls. to 75 bbls. has been named as a possible means to hold back production in the district still more. This election is made to prevent many wells going unconnected, and to hold production in check and maintain the present price structure.

Nothing will be done in regard to this matter before February 12 when the Railroad Commission will hold a hearing on the East Texas district. This will be the first hearing this body has held in regard to this district since martial law was declared on August 17.

EAST CENTRAL TEXAS WILDCATS

Week Ending February 1

ANDERSON COUNTY

Company, well, farm name, section and block—	Remarks:
C. R. Wilmuth et al's No. 1 N. B. Watson, 500 ft. from W line and 4,850 ft. from N of S line of survey in 6⅛ of 129-ac. tract, M. Main Sur.	Drlg. 1,309 ft.

BOWIE COUNTY

Logan and Elliott's No. 1 J. W. Smith, 9,600 ft. S and 2,500 ft. W of NE cor. of survey, Chas. Lewis Sur.	S.D. 4,503 ft.
W. S. Langford's No. 1 W. W. Whybark, 200 ft. from S and W of SW cor. of J. A. Dyer Sur.	S.D. 1,880 ft.
Lee Timberlake et al's No. 2 Julius N. Tidwell, 655 ft. from E and 2,510 ft. from S of survey in L. M. Rice Sur.	S.W. on D.S. test; S.D. 3,012 ft.

CHEROKEE COUNTY

Bridges and Candler's No. 1 Berryman, center of Berryman tract, H. Kimble Sur.	S.D. 1,000 ft.
Denman et al's No. 1 Mrs. Renfroe, 330 ft. N of S line and 330 ft. E of W line of farm, Uriah Moore Sur.	Derrick.
Harper and Perkinson's No. 1 J. T. Lowery, 650 ft. from N line, 150 ft. from W line of Blk. No. 5 on a 139.6-ac. tract, 4 miles W of Troupe, C. B. Jennings Sur.	Rigging up.
Merry Bros. and Perini's No. 1 Annie Kelley, 330 ft. from N line and 443 ft. from E line of 393-ac. tract and 90-ac. lease, M. De Los Santos Coy Sur.	Location.
Wilson & Stubbs' No. 1 L. Robart, 450 ft. from S and 150 ft. from W of lease, J. B. Wolfin Sur.	S.D. 2,035 ft.

DALLAS COUNTY

Long Creek Dev. Co.'s No. 1 T. J. Lupton, center of 160-ac. tract, 3½ miles N of Mesquite, J. Johnson Sur.	Derrick pattern.
Paris' No. 2 Wilkinson, 2,787 ft. from NW and 2,241 ft. from SW of John P. Anderson Sur.	T.D. 1,230 ft; S.D.
Joe Wilson's No. 1 fee, 600 ft. from N line and 600 ft. from W line of 1,500-ac. tr., Jno. Scroggs Sur.	S.D. 1,150 ft.

DELTA COUNTY

Worthington et al's No. 1 Pejernett, 775 ft. from S and 150 ft. from W in E. Chick Sur., 1½ miles W of Horton	S.D. 3,315 ft.

ELLIS COUNTY

Clark Brooks' No. 1 C. W. Golliday, 300 ft. from S line and 300 ft. from E line of tract and survey, John Bones Sur.	Underreaming 6⅝-in. csg.; T.D. 1,800 ft.
E. M. Roger's No. 1 John Lee Winn, 1,650 ft. from E and 150 ft. from S of Orland, Orlo Wheeler Sur.	S.D. 1,435 ft.
Worthen Pet. Co.'s No. 1 Cerf, 2½ miles NE of Ennis.	T.D. 2,264 ft.

FRANKLIN COUNTY

Tom Harper's No. 1 fee, 150 ft. from N line and 200 ft. from E line of 116-ac. tr., W. M. Dawson Sur.	Derrick.

(Continued on Page 63)

COMPLETIONS IN EAST TEXAS

Gregg County

Arkansas Fuel Oil Co.'s No. 1-B McPherson, top sand 3,536 feet, initial production 95 bbls. in 30 minutes through open tubing, total depth 3,556 feet; No. 3 L. D. Tuttle, top sand 3,582 feet, initial production 83 bbls. in 30 minutes through open tubing, total depth 3,614 feet. Atlantic and Waldey's No. 1 Bauder, top sand 3,609 feet, initial production 85 bbls. per hour through open tubing, total depth 3,640 feet. Bridwell and Fike's No. 1 D. Lockett, top sand 3,614 feet, initial production 78 bbls. per hour through three-fourths inch tubing choke, total depth 3,668 feet. Continental Oil Co.'s No. 3 B. C. Todd, top sand 3,553 feet, initial production 140 bbls. per hour through open tubing, total depth 3,585 feet. Cox and Hamon's No. 4 Lacy, top sand 3,510 feet, initial production 80 bbls. in one-half hour through open tubing, total depth 3,600 feet. Darby Petroleum Co.'s No. 2 H. W. Ritchie, top sand 3,619 feet, initial production 30 bbls in 15 min-

(Continued on Page 26)

Ward County Busiest in West Texas

Proposed Deep Test in Crockett County Causes Renewal of Leasing Activity There. Geophysical Work Under Way in Ward County

By L. E. Bredberg
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Feb. 1.—Two locations were announced for West Texas this week, with two others to follow, but not yet reported by the scouts. One wildcat was temporarily abandoned in Concho County and the Continental Oil Co. recompleted its No. 6 Settles in the Howard County Pool, the company having deepened this well to increase production.

Two locations have been announced for the Wheat Pool, Loving County, one of the most active areas in West Texas during the past year. The Eppenauer Drilling Co. is to drill an offset to its No. 2 Allen, a producer in the north end of the field, and Cecil Wheat is to drill a test in the townsite of Mentone. The former is located in Section 4, Block 2, W.&N.W. Survey, and the second is located in Section 83, Block 1, W.&N.W. Survey. It is a semiwildcat.

Ward County

Ward County continues to be the most active county in the district. The Stanolind Oil & Gas Co.'s No. 1 Weiss is the most interesting well in the county at the present time, due to the fact that it extends production almost one-half mile. It is located in Section 4, Block 34, H.& T.C. Survey, north of the company's No. 1 Brown which is a producer. No. 1 Weiss is standing with 2,000 feet of oil in the hole. It encountered an increase of gas and oil from 2,325-30 feet and blew tools 200 feet up the hole where hole bridged and tools stuck. The bridge is now being drilled.

Shipley, Byrd and Harmon have deepened their No. 1 Monroe, Delaware discovery well, on the western side of Ward County, but the deepening did not increase the production. Another shot is to be given the well during the fore part of the week. It has been making only around 35 bbls. per day, flowing, and was given a shot before completed at 4,666 feet. The Plains Producing Co. has been formed by Byrd and Harmon to produce this well and the acreage around it which comprises approximately 7,300 acres. The well is in Section 3, Block 1, W.&N.W. Survey. Other tests are to be drilled by the company in this area but it is doubtful whether they will start any tests within the near future under present conditions of the industry. There is no pipe line connection to this well.

Howard County

L. C. Harrison's No. 1 Denman, in Section 10, Block 30, T.&P. Survey, semiwildcat in eastern Howard County, which topped the pay at 2,735 feet last week, was shot with 300 quarts from 2,731-2,807 feet and flowed 100 bbls. the first two hours. It swabbed 300 bbls. the next 14 hours, the oil testing 29.5 gravity. Total depth of the hole is 2,807 feet. Wells in this area do not hold up on production, and the area is not of exceptional importance, although it means more production for the county and proves up a little more acreage.

Big Lake Pool

Practically all of the deep wells in the Big Lake Pool, Reagan County, are the same as last week, with the exception of Group No. 1 Oil Corp. and Continental Oil Co.'s No. 3-B University, which is testing at 9,020 feet in lime, at the tenth level since it has been deepened from its former total depth of 8,633 feet. On the last test, at 9,004 feet, it made 2,205 bbls. in 23 hours.

Proration Figures

There was no change made in Ector County, Winkler or Crane-Upton Counties' proration for the present period, the scedules of January continuing in effect until March 1. The new potential of the Yates Pool, Pecos County, for 12 hours is 2,365,635 bbls. for the current period, producing from 402 wells. The allowable remains at 65,000 bbls. per day for the field. A possible change in the proration method of the field is under consideration, this method to fix allowables according to bottom hole pressures of the wells instead of the potential method as at present. The Railroad Commission is to take this plan under advisement, and will hold hearing at Austin in regard to this plan which may go into effect the first of February for a six months' trial.

Repressuring was discussed at the Yates advisory meeting hearing at Dallas last Tuesday, but no action was taken on it. The field is now making less than its daily allowable due to the Sunday shut in of the wells.

Irion County

Stanolind Oil & Gas Co.'s deep test on the Williams ranch in Section 1,196, T.T. Survey, Irion County, is drilling ahead at 3,890 feet in shale. Elevation of this test is 2,544 feet. This test is seeking the deep Big Lake pay.

Deep Test in Crockett

The Stanolind Oil & Gas Co. and Continental Oil Co. are considering the drilling of a deep test in Crockett County, West Texas, this proposal having caused a renewal of leasing activity in the county, especially in the vicinity of the proposed location. The Shell Petroleum Corp. purchased acreage in Section 57, Block UV, G.C.&S.F. Survey, 1½ miles northeast of the proposed location, and the Stanolind Oil & Gas Co. has purchased acreage in Section 65 of the same area. The California Co. and Atlantic Oil Producing Co. both have geological detail parties working in the county.

The Texas Company has four seismograph crews working between Monahans and Pyote, and 10 miles south of the railroad in Ward County.

RANGER AND WICHITA FALLS

There were five locations staked in the Ranger district this week, one in Brown, one in Eastland, one in Palo Pinto and two in Shackelford County. Three wells were completed in Callahan, one in Eastland, two in Palo Pinto and two in Shackelford County, showing an increase in activities in these counties in the district during the week.

Christie Brothers purchased 36 acres, 1,800 feet southeast of Knox' No. 1 Manning, Strawn discovery in the Graham area, Young County, and will drill a test immediately. The Knox well made 319 bbls. on a 12-hour gauge through a 2-inch flow line, looking good for a 600 bbl. well, or almost twice as good as when it first topped the Strawn sand and was shut down at 2,758 feet waiting on connection. Ossie Brather and others are drilling a south offset to the discovery on the C. L. Lowe farm.

In the Wichita Falls district there were 12 locations staked as follows: One in Cooke County, five in Wichita, four in Young, one in Archer and one in Wise County.

Goldsmith and others brought in a well on the Dunagan farm in Section 163, Y.E.&L. Survey, in the midst of a large number of shallow dry holes, opening another pool for Young County, which is one of the most prolific oil producing counties of the Wichita Falls district. This well topped the sand at 938-44 feet, the well filling 500 feet with oil and estimated as good for 35 bbls. daily.

DISTRIBUTION REPORT FOR WEST TEXAS

Week ending January 21
Shipments by Trunk Lines

Company, size and location—	Bbls.
Atlantic P. L. Co., 10-inch, Houston	19,855
Gulf P. L. Co., 8-inch, Ranger	30,815
Humble P. L. Co., 2-8-in., San Angelo	27,633
Humble P. L. Co., 12-in., Station "A"	49,263
Magnolia P. L. Co., 8-inch, De Leon	1,393
Shell P. L. Co., 10-inch, Houston	23,368
Shell P. L. Co., 10-inch, Cushing	36,238
Texas P. L. Co., 12-inch, Houston	15,933
Illinois P. L. Co., 2-8-inch, Del Rio	22,963
Total	226,491
Shipments by tank car	None
Shipments to refineries	23,279
Daily average distribution	249,770
Daily average production in West Texas and Lea County	208,210
Daily average from storage	41,560

COMPLETIONS IN WEST TEXAS

Concho County

Turner's No. 1 Borsig, temporarily abandoned, total depth 1,850 feet.

Howard County

Continental Oil Co.'s No. 6 Settles (recompleted), total depth 2,440 feet, increase in oil at 2,351 feet, 2,388-94 feet

(Continued on Page 26)

WILDCAT OPERATIONS IN WEST TEXAS

Week Ending February 1

ANDREWS COUNTY

Fuhrman Pet. Co.'s No. 1 Boner, 1,320 ft. from N and 440 ft. from W, Sec. 24, Blk. A-43, P.S.L. ..... Spudded Jan. 29.

BREWSTER COUNTY

Brewster Oil Co.'s No. 1 fee, 2,640 ft. S and 2,598 ft. E of NW cor., Sec. 45, Blk. G-15, G.C.&S.F. Sur. ..... S.D. 1,935 ft.

E. L. Chapman's No. 1 Skinner, C SW SE, Sec. 100, Blk. 2, G.C.&S.F. Sur. ..... S.D. 1,302 ft.

Trans-Pecos Oil & Gas Co.'s No. 1 Jones, 930 ft. from N and 2,500 ft. from E of Sec. 18, Blk. G-15, G.C.& S.F. Sur. ..... S.D. 2,900 ft.

Van McPhail's No. 1 McIntyre, SE cor., Sec. 59, Blk. 352, 7 miles south Alpine ..... S.D. 1,750 ft.

COCHRAN COUNTY

Penn Oil Co.'s No. 1 Slaughter, C Labour No. 80 of League 129, Carson County School Lands ..... S.D. 5,002 ft.

CONCHO COUNTY

Beesley et al's No. 1 Waring Estate, 400 ft. from N and E, Sec. 163, T.&N.O. Sur. ..... Rig up; National machine; S.D. 750 ft.

CROCKETT COUNTY

Doleman & Moore's No. 1 Ferner, 2,135 ft. from N and 1,485 ft. from E of Sec. 36, Blk. 2, I.&G.N. Sur. ..... Spudded and S.D.

CULBERSON COUNTY

Harris-Hann's No. 1 Seay, 1,980 ft. from N and E of Sec. 16, Blk. 54, P.S.L. ..... Location.

Kornrumpf et al's No. 1 Garen, 330 ft. S and W, Sec. 15, Blk. 79, Public School Land ..... S.D. 1,280 ft.

DAWSON COUNTY

Albaugh et al's No. 1 Robinson, C NW, Sec. 46, Blk. M, E.L.&R.R. Sur. ..... To resume drilling.

ECTOR COUNTY

Weekly Oil Corp. et al's No. 1 Cowden, 1,980 ft. from N and W, Sec. 33, Blk. 43, Twp. 2s, T.&P. Sur. ..... Est. 500,000 ft. gas 3,795 ft.; increase 3,797 ft.

H. F. Wurts' No. 1 E. A. Ibbetson et al, 330 ft. from N and E lines of NW, Sec. 16, Blk. 46, Twp. 3s, G. M. M.Br.&A. Sur. ..... S.D. 3,280 ft.

EL PASO COUNTY

Tri-State Oil Co.'s No. 1 Bobadella, 1,325 ft. from S and E lines Sur. 254, S.F. No. 7,247 ..... S.D. 2,152 ft.

FISHER COUNTY

Cranfill & Reynolds' No. 1 Snipe, 330 ft. from N and W lines of Sec. 195, Blk. 1, B.B.B.&C. Sur. ..... T.D. 3,140 ft.; P.B. 3,112 ft.; pumping 10 bbls. day.

(Continued on Page 62)

WILDCAT OPERATIONS IN TEXAS PANHANDLE

Week Ending February 1

CARSON COUNTY

Continental Oil Co.'s No. 4 Block, 330 ft. from N, 990 ft. from E, Sec. 111, Blk. 4, I.&G.N. Sur. ..... Driving 12½-in. csg. 100 ft.

H. A. M. Oil Co.'s No. 2 Cooper, 330 ft. from S and E, Sec. 5, Blk. 9, I.&G.N. Sur. ..... Location.

Texhoma Nat. Gas Co.'s No. 1 Burnett, C NE, Sec. 54, Blk. 4, I.&G.N. Sur. ..... Skidding rig 50 ft. east.

Texhoma Nat. Gas Co.'s No. 1-G Gore, 1,330 ft. from S and 1,327 ft. from W, Sec. 42, Blk. 4, I.&G.N. Sur. ..... Spudded.

CHILDRESS COUNTY

C. L. Sloan et al's No. 1 B. P. Smith, Sec. 49, F. P. Knott lands ..... T.D. 5,000 ft.

COLLINGSWORTH COUNTY

Dixon et al's No. 1 Bell, 330 ft. N, 1,320 ft. W, Sec. 102, Blk. 21, H.&G.N. Sur. ..... S.D. 2,503 ft.

Downey et al's No. 1 Beasley, SE cor. SW SE, Sec. 95, Blk. 15, H.&G.N. Sur. ..... Rigging up.

Western Union Oil Co.'s No. 1 Farwell, C NW, Sec. 18-3n-2e ..... S.D. 275 ft.

GRAY COUNTY

Back & Barber's No. 1 Back, 660 ft. from S and 330 ft. from W, Sec. 146, Blk. 25, H.&G.N. Sur. ..... S.D. 1,350 ft.

Boyes et al's No. 1 Colebank-Morse, 330 ft. NE, Sec. 65, Blk. 25, H.&G.N. Sur. ..... Spudded and S.D.

Brown et al's No. 1 Duncan, 330 ft. S and E, NW, Sec. 93, Blk. 3, I.&G.N. Sur. ..... S.D. 2,720 ft.

Danciger O. & R. Co.'s No. 3 Byrum, 330 ft. from N line, 330 ft. from E line, Sec. 188, Blk. 3, T.&N.O. Sur. ..... Rigging up rotary.

Gulf Oil Corp.'s No. 1 Catlin, 2,310 ft. from N line, 330 ft. from E line, Sec. 27, Blk. 3, I.G.N. Sur. ..... Rigging up rotary.

Jean Pet. Co.'s No. 1 Furneaux Bros., 330 ft. N and W. cor. SE, Sec. 200, Blk. B-2, H.&G.N. Sur. ..... S.D. 3,010 ft; cleaned up fishing job.

Jewel Oil Co.'s No. 1 Meers, 330 ft. from S and W of NW SW, Sec. 106, Blk. 3, I.&G.N. Sur. ..... S.D. 2,410 ft.

Nelson et al's No. 1 Crews, 330 ft. S and E, NW, Sec. 13, Blk. 25, H.&G.N. Sur. ..... S.D. 2,619 ft.

Nipper et al's No. 1 Morse, 330 ft. from N and E, Sec. 1, Blk. 26, I.&G.N. Sur. ..... Cleaned out 2,365 ft.

Operators Royalty & Prod. Co.'s No. 2 Arnold, 330 ft. from S and W, Sec. 149, Blk. 3, I.&G.N. Sur. ..... Rig.

Pulse-Shell Pet. Corp.'s No. 1 Wright, 330 ft. from S and W of Sec. 13, Blk. 3, I.&G.N. Sur. ..... Drilled plug and gauged 13,200,000 ft. of gas; S.D. for storage room 2,643 ft.

(Continued on Page 62)

Goodyear

THOR'S the BELT

for Your Fast, Hard Drives

GOODYEAR'S long experience with oil field requirements is reflected in the belt Goodyear has built for fast, hard oil field jobs:

the new Goodyear
THOR *Belt, seamless**

It is a staunch, heavy-duty belt for pumping and drilling. Note its special construction features:

A strong, seamless, friction envelope, protecting the edges and armoring the body. No center seam. The greatest resistance to splitting or fraying.

A body of heavy silver-duck, extra strong at the fasteners, cushioned and buttressed in tough Goodyear rubber.

Goodyear THOR Belting, seamless,* is specified to the job by the G.T.M.—Goodyear Technical Man. The oil industry knows the G.T.M. well as an expert on rubber mechanical goods for oil field use.

You may rely fully on the G.T.M.'s specification of Goodyear THOR Belting, seamless,* Goodyear COMPASS (Cord) Oil Well Belts, Goodyear Hy-Pressure Rotary Hose, and other Goodyear Rubber Mechanical goods. A word to Goodyear, Akron, Ohio, or Los Angeles, California, will bring the G.T.M. to your location.

**Goodyear* THOR *Belting, seamless, is made in widths up to and including 16"—*THOR *quality of special construction is available for larger sizes*

TUNE IN:

Goodyear invites you to hear John Philip Sousa and his Band... Arthur Pryor and his Band... Revellers Quartet and Goodyear Concert-Dance Orchestra ... every Wednesday and Saturday night, over N.B.C. Red Network, WEAF and Associated Stations

THE GREATEST NAME IN RUBBER

GOODYEAR

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Pipe Line Construction News

C. R. BURDEN DESCRIBES PIPE LINE CONSTRUCTION

WICHITA FALLS, Tex., Feb. 1.—C. R. Burden, district superintendent of the North Texas division of The Texas Pipe Line Co., spoke to 60 members of the local chapter of the American Petroleum Institute at the Wichita Club.

Mr. Burden pointed out that the methods used in constructing pipe lines had kept pace with modern development in the oil industry and that men who were considered experts 8 or 10 years ago would know little of the methods used at the present time if they had not kept up with modern developments. Mr. Burden described in detail the work of various crews necessary to construct a pipe line, each having its particular duty. The first move consists of an aerial survey. The photographs taken by the aerial surveyors are then used by the engineers to locate the line on the ground. Next comes the purchasing of the right of way by experts in this particular line of work, after which the right of way is cleared by a special group of men. The line is then strung by the use of light trucks. The line-up crew then tack welds the line and is followed up closely by the welders. The pipe is then welded in sections, after which the bending crew makes the necessary bends in the line before the line is finally welded into a single unit. The ditch is then dug by machinery and the line lowered into the ditch, where it is covered by means of tractors and booms. All river crossings are made by men experienced in this particular line of work. The work of construction goes on in a co-ordinated manner, with great speed and accuracy.

Mr. Burden described in detail a 12-inch line, 204 miles in length, that he laid recently in East Texas in a period of 30 working days. He also described how modern machinery is installed in pump stations, and made comparison between various types of motive power.

DISTRIBUTION PLAN FOR LINE TO ROCHESTER

Gas from the branch pipe line from Owatonna, Minn., to Rochester, Minn., constructed by the Northern Natural Gas Co., Omaha, Neb., will probably be distributed in the city by the Interstate Power Co., now serving manufactured gas there. The city of Rochester was reported to be considering the purchase of the Rochester properties of the Interstate Power Co., with a view to operating a municipal distribution system. Interstate Power Co. has proposed a reduction of 20 per cent in gas rates with the advent of natural gas, and an engineer has been named by the mayor to investigate the situation.

Interstate Power distributes manufactured gas in several towns along the route of the Mason City, Iowa, to Owatonna, Minn., line of the Northern Natural System among them Albert Lea, Owatonna, Waseca and New Ulm.

Route of the Rochester extension passes south of Claremont between Kasson and Mantorville, and southeast to Rochester. A line will be extended to Claremont if the franchise application there is granted.

CONTRACT AWARDED FOR FORT SCOTT LINE

The Mid-Continent Public Service Co., a Kansas corporation with offices in Fort Scott, Kans., has awarded a contract to the Moore-Creekmore Construction Co., Tulsa, for laying a 28-mile line from the gas fields around Chanute, Kans., to the city of Fort Scott and in addition the distribution system in Fort Scott.

ATLANTIC REFINING CO. SELLS SHARE IN IRAQ

NEW YORK, Feb. 1.—Further consolidation of American participation in Iraq Petroleum Co. has been accomplished through the sale by Atlantic Refining Co. of its share in Near East Development Corp., made up of American oil companies owning a 23¾ per cent interest in Iraq Petroleum Co.

Atlantic's relinquishing of its participation in Iraq Petroleum was disclosed by its annual report showing a nonrecurring profit of $1,433,000 for 1931, derived through the sale of "current investments outside of the United States."

Atlantic Refining Co. was one of the five American companies which originally entered the development corporation to take over the American share in the Iraq oil concession. The report of the sale of its interest merely states that "the remaining group" has acquired Atlantic's share.

Standard Oil Co. (New Jersey) is now the dominant factor in Near East Development Corp., having acquired Pan American Petroleum & Transport Co.'s holdings last year. With the withdrawal of Atlantic Refining and Pan American, the American companies interested in Iraq Petroleum Co. are now narrowed down to Standard of New Jersey, Socony-Vacuum Corp. (through the participation of the former Standard Oil Co. of New York), and Gulf Oil Corp.

Reports from Iraq indicate that while the route of the pipe line from the oil fields in that country to tidewater has been definitely decided upon, construction work is still being delayed pending the adjustment of minor difficulties incidental to the work.

ALTO COMPRESSOR STATION

The Southern Natural Gas Corp., Mississippi River Fuel Corp., Southern Carbon Co. and Hope Producing Co. have completed a 3,750 horsepower compressor station at Alto, La., constructed jointly to boost gas into the Southern Natural, the Mississippi River Fuel and Interstate gas lines. The station is being operated by the Interstate Gas Co.

Three 1,250 horsepower Worthington units were installed in the plant, these being leased to the interests by the Southern Natural Gas Corp. The Pittsburgh-Des Moines Steel Co. supplied superstructure for the compressor buildings and all overhead water tanks. Fluor towers went into the project as did also Ingersoll-Rand circulating pumps. Crane Co. supplied all fabricated piping and valves.

COMPRESSOR STATIONS ON NORTHERN NATURAL LINE

Nine Cooper-Bessemer units rated 1,000 brake horsepower in Northern Gas & Pipe Line Co.'s compressor station at Clifton, Kans.

The Northern Gas & Pipe Line Co.'s 3,000-horsepower compressor station at Skellytown, Tex., gathers gas from the Skellytown Field and boosts it northward through the company's main line to points in Kansas, Nebraska and Iowa. This is one of the three major gas lines that emanate from the Texas Panhandle.

The second compressor station, at Mullinville, Kans., has 1,558 engine horsepower. This station is 177 miles from the first, at the point where the line makes a tie-in with the Kansas Pipe Line & Gas Co. system. The Kansas company's line extends westwardly from Mullinville for 64 miles to Calista, where a 3,000-horsepower compressor station is in operation. Further along, there is a 6,000-horsepower station at Abilene. And at Clifton, where the Kansas line again connects with the Northern Gas & Pipe Line, there is a 9,000-horsepower compressor station.

At all of the stations, save the one at Mullinville, the compressor units are rated 1,000 brake horsepower each. At Mullinville there are three 170-horsepower units, and four 262-horsepower units. With that exception, a description of the Abilene station will fit the others in general.

The main building at Abilene, Kans., is 60 feet wide by 179 feet long and is of steel and corrugated iron construction. The six compressor units are Cooper-Bessemer 21½x36-inch, twin tandem double acting 1,000-horsepower gas engines, each direct connected to two 13½x36-inch double acting compressor cylinders operating at 250 pounds suction and 430 pounds discharge pressure. Each unit has a capacity of 6,860,000 cubic feet of gas per 24 hours, giving the station a capacity of 41,160,000 cubic feet per day. A forced-feed lubricating system is provided for the engines and compressors. Auxiliary power is also furnished by Cooper-Bessemer gas engines, these being the vertical (multi-cylinder) type, direct connected to generators.

When the entire Northern Gas project is completed, it will consist of 1,877 miles of main line and 814 miles of branch lines in seven states. Lines into Minnesota and South Dakota are being constructed.

INCREASED ACTIVITY IS EXPECTED IN EAST

The pipe line industry expects an increased volume of activity this year in the territory east of the Mississippi River. Reports already are current of projects being considered which would make natural gas available to additional cities and towns adjacent to areas now being supplied by main trunk pipe lines. It is entirely probable some large cities and manufacturing centers in the East will have natural gas available for fuel some time this year.

Consideration is being given also to the matter of constructing additional pipe lines for the transportation of gasoline. One or two major projects of this nature are rumored at this time although the companies involved have not progressed far enough with their consideration to make any statement.

In this connection there has been an increased demand for the pipe line maps compiled and published by The Oil and Gas Journal. These maps, printed on especially heavy bond paper, show all oil, natural gas and gasoline trunk pipe lines in the United States. The charge is $1, postpaid.

PIPE LINE COMPANIES ELECT

OIL CITY, Pa., Feb. 1.—Forrest M. Towl of New York was elected chairman of the board and Allan T. Towl of New York president of both the Southern Pipe Line Co. and the Southwest Pennsylvania Pipe Line Co. today.

Forrest M. Towl, Allan T. Towl, J. W. Vandergrift of Lancaster and J. M. Tussey and V. S. Swisher, the latter two of Oil City, were named directors of Southern Pipe Line. J. W. Vandergrift was named vice president and general manager; J. M. Tussey, vice president and treasurer, and V. S. Swisher, secretary.

Allan T. Towl, T. C. Towl and R. L. Cronise of Pittsburgh and D. L. Thomas and E. W. Ziegler of Oil City were re-elected as directors of Southwest Pennsylvania Pipe Line. T. C. Towl was made vice president and general manager; J. M. Tussey, vice president and treasurer, and V. S. Swisher, secretary.

NEW OKLAHOMA SYSTEMS

Gas franchises or contracts were granted during 1931 by 25 towns, and new natural gas distribution systems were completed or started at Boise City, Buffalo, Chaney, Coyle, Guthrie, Haskell, Langston, Mulhall, Porum, Red Oak, Shawnee, Supply, Spiro, Laverne and Verden, according to statistics compiled by the Oklahoma Utilities Association. Several of the towns which voted franchises during 1931 have prospects for new gas distribution systems during the present year. Approximately 300 miles of new gas transmission lines were constructed or completed in the State last year to carry fuel to these towns or to other markets.

GULF LINE READY

The new 8-inch electrically welded pipe line between Grayson and Perryman stations in Oklahoma of the Gulf Pipe Line Co. has been welded and was being tested on February 2. About three-fourths of the pipe is in the ditch and the balance will be in place by the end of this week and the complete line ready for operation by February 10.

LINE TO CHATTANOOGA

According to report, the Southern Natural Gas Corp., Birmingham, Ala., is planning construction of an extension from its main line to Chattanooga, Tenn.

UNSOLICITED *but* PRAISE

SINCLAIR TEXAS PIPE LINE COMPANY

BOX 2026

TULSA, OKLAHOMA

December 27, 1930

The Truman-Smith Construction Co.
Box 192,
El Dorado, Kansas.

Gentlemen:

I have recently covered that portion of our 12" pipe line from Hallett, Oklahoma to Tyro, Kansas and also the 8" from Tyro to Coffeyville. In justice to the splendid way in which you handled the construction of the above named lines, I believe it is only fair to tell you that in my fifteen years of buying right of way and settling damages, I have never worked with a pipe line contractor who cooperated with the Right of Way Department so thoroughly and cheerfully as your firm has done on this job.

It was a pleasure to see the manner in which you had repaired all fences, road crossings and replaced the banks for creek crossings, as well as the manner in which the back filling has been done.

The foregoing is unsolicited on your part but the writer believes in passing bouquets when they are deserved and you truly have this one coming. With kindest regards for your future success, I am

Yours very truly
H. R. Flanagan
SUPT. RIGHT OF WAY DEPT.

The TRUMAN-SMITH CONST. Co.
EL DORADO, KANSAS.

PASSED HIS LIFE WITH THE STACEY COMPANIES

Andrew J. Stacey, 73, vice president and director of the Stacey Brothers Gas Construction Co. and director of Stacey Manufacturing Co., subsidiaries of International Stacey Corp., died January 18 in his home in Wyoming, Ohio, a suburb of

Andrew J. Stacey

Cincinnati. Mr. Stacey had been with the Stacey companies since his youth. He was recognized as an authority on machinery and gasholders used in connection with the manufacture and distribution of manufactured and natural gas.

In addition to his interest in the gas utility industry, Mr. Stacey was a director of the First National Bank, Elmwood Place, Ohio. He was a member of the Queen City Club and the Wyoming County Club. He leaves his wife.

EAST TEXAS FIELD MAPS WERE MADE BY ZINGERY

The maps of the oil fields in East Texas, shown on pages 170, 171, 173, 174 and 175 in the January 28 issue of The Oil and Gas Journal were made by the Zingery Oil Map Co., Fair Building, Fort Worth, Tex. This company made these maps originally in the office of the Texas Railroad Commission in Henderson, Tex., in November, 1931, and has kept the maps up to date since that time. The maps are generally accepted by the petroleum industry as the standard source of such information and have been found by the industry to be especially dependable.

W. W. Zingery has originated new systems of map making which have gained wide use throughout the Mid-Continent area and his organization in Texas and New Mexico has simplified greatly problems of oil companies and others who must have accurate maps of areas in which they operate.

EAST TEXAS FIELDS

(Continued from Page 21)

utes through one-fourth inch tubing choke, total depth 3,643 feet.

Empire Gas & Fuel Oil Co.'s No. 2 J. C. Bumpass, top sand 3,504 feet, initial production 43 bbls. in 15 imnutes through 1½-inch tubing choke, total depth 3,575 feet. F. H. E. Oil Co.'s No. 1 D. H. Jones, top sand 3,627 feet, initial production 55 bbls. in 30 minutes through 1-inch tubing choke, total depth 3,657 feet; No. 2 W. E. Jones, top sand 3,658 feet, initial production 100 bbls. per hour through 1-inch tubing choke, total depth 3,661 feet. Humble Oil & Refining Co.'s No. 7 A. Carter, top sand 3,606 feet, initial production 100 bbls. per hour through 1-inch tubing choke, total depth 3,655 feet. Kewanee Oil Co.'s No. 3 G. E. Adams, top sand 3,547 feet, initial production 80 bbls. in 30 minutes through open tubing, total depth 3,587 feet.

Magnolia Petroleum Co.'s No. 5 W. E. Jones, top sand 3,621 feet, initial production 180 bbls. per hour through open tubing, total depth 3,641 feet. Navarro Oil Co.'s No. 2 E. L. Walker, top sand 3,590 feet, initial production 118 bbls. per hour through open tubing, total depth 3,606 feet. Roeser and Pendleton's No. 3-B Satterwhite, top sand 3,675 feet, initial production 94 bbls. in 30 minutes through open tubing, total depth 3,690 feet. Ryan and Hobson's No. 1 G. A. Mattox, top sand 3,606 feet, initial production 80 bbls. per hour through three-fourths inch tubing choke, total depth 3,635 feet.

Sakato Oil Co.'s No. 2 C. H. Moore, top sand 3,590 feet, initial production 120 bbls. per hour through open tubing, total depth 3,617 feet. Shasta Oil Co.'s No. 1 Campbell, top sand 3,596 feet, initial production 100 bbls. per hour through 1-inch tubing choke, total depth 3,624 feet. Shell Petroleum Corp.'s No. 3 G. Jones, top sand 3,515 feet, initial production 83 bbls. in 30 minutes through 2-inch tubing choke, total depth 3,595 feet. Southland Oil Co.'s No. 1 C. Christian, top sand 3,646 feet, initial production 80 bbls. per hour through 1-inch tubing choke, total depth 3,647 feet. Stanolind and Simms Oil Co.'s No. 3 M. Lemaire, top sand 3,564 feet, initial production 189 bbls. per hour through open tubing, total depth 3,632 feet. Sun Oil Co.'s No. 5 J. W. Aiken, top sand 3,511 feet, initial production 100 bbls. per hour through 1-inch tubing choke, total depth 3,546 feet; No. 1-B Allen Tooke, top sand 3,530 feet, initial production 100 bbls. per hour through 1-inch tubing choke, total depth 3,560 feet. Tidal Oil Co.'s No. 3 W. E. Jones, top sand 3,634 feet, initial production 60 bbls. in 30 minutes through 1-inch tubing choke, total depth 3,652 feet.

Tidal Oil Co.'s No. 4 Nettleton, top sand 3,514 feet, initial production 68 bbls. in 10 minutes through open tubing, total depth 3,542 feet; No. 5 Sheppard, top sand 3,644 feet, initial production 73 bbls. in 10 minutes through open tubing, total depth 3,654 feet. P. M. Wiggins' No. 1 fee, top sand 3,628 feet, initial production 60 bbls. in one-half hour through 1-inch tubing choke, total depth 3,660 feet. Woodley Petroleum Co.'s No. 1 K. Moseley, top sand 3,475 feet, initial production 50 bbls. per hour through open tubing, total depth 3,500 feet. Yount Lee Oil Co.'s No. 2-B M. Smith, top sand 3,484 feet, initial production 85 bbls. per hour through 1-inch tubing choke, total depth 3,504 feet; No. 3 H. Stephens, top sand 3,579 feet, initial production 100 bbls. per hour through 1-inch tubing choke, total depth 3,599 feet.

Everts Drilling Co.'s No. 1 Muckelroy, top sand 3,547 feet, initial production 100 bbls. per day through various chokes, total depth 3,588 feet. Gulf Production Co.'s No. 11 A. Spear, top sand 3,540 feet, initial production 112 bbls. per hour through three-fourths-inch tubing choke, total depth 3,565 feet. Jamison Oil Co.'s No. 1 Johnson and Haynie, top sand 3,547 feet, initial production 100 bbls. per day through one-half-inch tubing choke, total depth 3,572 feet. Marine Oil Co.'s No. 1 L. D. Crim, top sand 3,568 feet, initial production 51 bbls. in one-fourth hour through three-fourths-inch tubing choke, total depth 3,578 feet. J. H. Gwin's No. 1 Culver, top sand 3,548 feet, initial production 133 bbls. per hour through open tubing, total depth 3,597 feet.

Shell Petroleum Corp.'s No. 16 Watson, location abandoned. Sun Oil Co.'s No. 12 Hilburn, top sand 3,686 feet, initial production 66 bbls. per hour through three-fourths-inch tubing choke, total depth 3,698 feet. Tidal Oil Co.'s No. 2 M. B. Huey, top sand 3,483 feet, initial production 65½ bbls. in one-fourth hour through open tubing, total depth 3,523 feet. Trapshooter Reilly's No. 2 Mitchell, top sand 3,566 feet, initial production 85 bbls. per hour through three-eighths-inch tubing choke, total depth 3,612 feet. Weaver-Crim Corp.'s No. 2 D. M. Peterson, top sand 3,591 feet, initial production 16 bbls. in five minutes through open tubing, total depth 3,623 feet.

Rusk County

Everts Drilling Co.'s No. 3 Crews, top sand 3,846 feet, initial production 100 bbls. in two and one-half hours through one-fourth-inch tubing choke, total depth 3,847 feet. Gulf Production Co.'s No. 4 Florence, top sand 3,712 feet, initial production 120 bbls. per hour through three-fourths-inch tubing choke, total depth 3,718 feet. Humble Oil & Refining Co.'s No. 1 Mrs. V. E. Reed, top sand 3,671 feet, initial production 32 bbls. per hour through three-fourths-inch tubing choke, total depth 3,764 feet; No. 2 M. Robertson, top sand 3,615 feet, initial production 46 bbls. in one-half hour through three-fourths-inch tubing choke, total depth 3,674 feet. Marine Oil Co.'s No. 5 Bean, top sand 3,598 feet, initial production 100 bbls. per day through various chokes, total depth 3,613 feet.

Shasta Oil Co.'s No. 1 H. Alexander, top sand 3,644 feet, initial production 20 bbls. in one-half hour through 2-inch tubing and three-fourths-inch tubing choke, total depth 3,697 feet. Arkansas Fuel Oil Co.'s No. 6 E. M. Bealls, top sand 3,650 feet, initial production 140 bbls. per hour through open tubing, total depth 3,671 feet. S. P. Borden's No. 1 T. O. Mason, top sand 3,651 feet, initial production 200 bbls. per hour through open tubing, total depth 3,659 feet. Roy Bryant's No. 1 Daisy Bradford, top sand 3,687 feet, initial production 40 bbls. per hour through open tubing, total depth 3,725 feet. Barney Cockburn's No. 3 Nathan Green, top sand 3,771 feet, initial production 13 bbls. in one-fourth hour through three-fourths-inch tubing choke, total depth 3,774 feet.

Golding and Murchison's No. 6 Kinney, top sand 3,585 feet, initial production 80 bbls. per hour through open tubing, total depth 3,655 feet. Grayburg Oil & Refining Co.'s No. 4 Kangerga, top sand 3,690 feet, initial production 155 bbls. per hour through open tubing, total depth 3,710 feet. Humble Oil & Refining Co.'s No. 3 C. A. Brightwell, top sand 3,634 feet, initial production 54 bbls. in one-half hour through three-quarters-inch tubing choke, total depth 3,719 feet; No. 3-B Ida Holt, top sand 3,717 feet, initial production 44 bbls. in one-half hour through three-quarters-inch tubing choke, total depth 3,752 feet; No. 3 T. M. Wooley, top sand 3,668 feet, initial production 53 bbls. in one-half hour through three-quarters-inch tubing choke, total depth 3,688 feet. H. L. Hunt's No. 4 Daisy Bradford, top sand 3,570 feet, initial production 100 bbls. per day, pinched and flowing by heads, total depth 3,698 feet.

Lyons and others' No. 1 Arnold, top sand 3,650 feet, initial production 80 bbls. per hour through open tubing, total depth 3,712 feet. M. H. McMurray's No. 1 Blackwell, top sand 3,693 feet, junked and abandoned, to skid 40 feet southeast of second hole. Magnolia Petroleum Co.'s No. 1 S. W. Moore, top sand 3,641 feet, initial production 69 bbls. in five minutes through open tubing, total depth 3,660 feet. Mid-Kansas Oil & Gas Co.'s No. 2 J. F. Mason, top sand 3,631 feet, initial production 240 bbls. per hour through open tubing.

Pitzer and West's No. 1 Mittie Giles, top sand 3,672 feet, initial production 60 bbls. per hour through open tubing, total depth 3,701 feet. R. M. V. Oil Co.'s No. 2 J. B. Wilson, top sand 3,616 feet, initial production 80 bbls. in one-half hour through open tubing, total depth 3,633 feet. Rogers and others' No. 1 L. J. Pinkston, top sand 3,616 feet, initial production 100 bbls. per hour through tubing, total depth 3,679 feet. The Texas Company's No. 5 L. J. Pinkston, top sand 3,618 feet, initial production 120 bbls. per hour through open tubing, total depth 3,675 feet. Tidal Oil Co.'s No. 5 Irion, top sand 3,672 feet, initial production 26 bbls. per 10 minutes through 2-inch tubing choke, total depth 3,720 feet.

Smith County

Dumas Petroleum Co.'s No. 1 Brooks, top sand 3,724 feet, initial production 65 bbls. in one-quarter hour through open tubing, total depth 3,729 feet. Graham Brothers' No. 1 S. S. Cooke, top sand 3,724 feet, initial production 112 bbls. per hour through three-quarters-inch tubing choke, total depth 3,728 feet. Mid-Kansas Oil & Gas Co.'s No. 2 J. H. Sharp, top sand 3,635 feet, initial production 30 bbls. per hour through open tubing, total depth 3,639 feet. Titex Oil Co.'s No. 1 Alex Woldert, location abandoned.

Upshur County

Cal-Pet Corp.'s No. 5 J. N. Taylor, top sand 3,675 feet, initial production 135 bbls. per hour through 1-inch tubing choke, total depth 3,690 feet. Hawkeye Petroleum Corp.'s No. 1 H. Fenton, top sand 3,751 feet, initial production 100 bbls. per day on choke, total depth 3,765 feet. Humble Oil & Refining Co.'s No. 1 E. W. Smith, top sand 3,666 feet, initial production 96 bbls. per hour through three-quarters-inch tubing choke, total depth 3,692 feet. Magnolia Petroleum Co.'s No. 15 J. W. Free, top sand 3,679 feet, initial production 108 bbls. per hour through three-quarters-inch tubing choke, total depth 3,684 feet.

DAILY AVERAGE OIL SHIPMENTS FROM EAST TEXAS

Week Ending January 25

Shipments Through Main Trunk Lines

Company, size and location—	Bbls.
Arkansas P. L. Co., 8-in., Shreveport	11,487
Atlantic P. L. Co., 10-in., Atreco	5,823
Atlas P. L. Co., 8-in., Shreveport	2,945
Gulf P. L. Co., 2-8-in., Oklahoma	10,780
Gulf P. L. Co., 2-8-in., Port Arthur	19,309
Houston Oil Co., 8-in., Amigo	none
Humble P. L. Co., 2-10-in., Shreveport	43,965
Humble P. L. Co., 2-8-in., Todd	27,110
Liberty P. L. Co., 8-in., Rusk	2,148
Magnolia P. L. Co., 10-in., Center	14,377
Magnolia P. L. Co., 12-in., Corsicana	39,438
Shell P. L. Corp., 10-in., Houston	16,855
Sinclair Tex. P. L. Co., 12-in., Teague	24,482
Sun-Yount Lee P. L., 10-in., Sun City	22,327
Texas P. L. Co., 10-in., Douglass	23,669
Tex. Empire P. L., 12-in., Port Arthur	49,467
Tidal Ref. Co., 6-in., Carthage	3,452
Total	317,634

Shipments to Refineries

Arrow Ref. Co., Overton	S.D.
Beacon Ref. Co., Henderson	600
Boone Ref. Co., Arp	400
Central Ref. Co., Friars Switch	S.D.
Constantin Ref. Co., Overton	S.D.
Diamond Ref. Co., Overton	708
East Texas Ref. Co., Longview	3,393
East Texas Ref. Co., Friars Switch	3,236
Gladetex Ref. Co., Gladewater	500
Gladewater Ref. Co., Gladewater	410
Kilgore Ref. Co., Kilgore	400
W. B. Mackey Ref. Co., Gladewater	650
Overton Ref. Co., Overton	1,150
Pet. Refractionating Co., Longview	S.D.
Sinclair O. & G. Co., Longview	1,257
Clack Ref. Co., Camp Switch	S.D.
Southern Oil Ref. Co., Reed Switch	700
Taylor Ref. Co., Tyler	2,566
Total	15,970

Shipments by Tank Car

East Texas Ref. Co., Longview	84
Tidal Ref. Co., Camp Switch	919
Tyler P. L. Co., Tyler	1,047
Total	2,050

Total daily average distribution	335,654
Total daily average production	345,350
Daily average to storage	9,692

NORTH AND WEST TEXAS

(Continued from Page 22)

and 2,408 feet, to pump, swabbed 30 bbls. oil per hour for 10 hours at 2,432 feet.

PANHANDLE DISTRICT

There were four locations staked in Gray County during the week, and three wells were completed in the district. One well was completed in Moore County, a gasser of the Texoma Natural Gas Co.

COMPLETIONS IN PANHANDLE DISTRICT

Gray County

Quicksand Oil Co.'s No. 1 Chapman, top pay 2,653 feet, initial production 100 bbls., total depth 2,692 feet. Skelly Oil Co.'s No. 23 Schaffer, top pay 3,178 feet, shot with 180 quarts from 3,181-3,246 feet, initial production 480 bbls., total depth 3,246 feet.

Moore County

Texhoma Natural Gas Co.'s No. 2-P Sneed, top pay 2,448 feet, initial production 44,500,000 feet of gas, total depth 2,610 feet.

G. L. HOLTON KILLED

LOS ANGELES, Calif., Jan. 30.—George L. Holton, president of the Turner Oil Co. of California, was killed last week when his automobile collided with a Pacific Electric train in Los Angeles. Because of the erratic course taken by the automobile it is thought probable that Mr. Holton suffered a heart attack previous to colliding with the train and subsequent killing of a pedestrian.

New Regulations for Oklahoma City

Ray M. Collins Appointed Pipe Line Umpire in an Effort to Obtain Satisfactory Proration. Curtail Drilling in New Pool

By W. A. Spinney
Staff Correspondent, Oklahoma Fields

Operations in Oklahoma continue at a steady rate and the State's production is again far below the allowable for the week ending January 30, when the daily average was approximately 412,500 bbls. The Oklahoma City Field averaged 97,930 bbls. a day while its allowable was 120,000 bbls. daily. Production from the Greater Seminole area, was being held to the allowable amount of 155,000 bbls. a day.

The Corporation Commission issued new proration orders for the Oklahoma City Field, Friday, January 29, which were made effective February 1 to 16, reducing the field's allowable production 25,000 bbls. a day to a daily production of 95,000 bbls. The new allowable brings the daily production and pipe line demands into a balance. The order is for the first 15 days in February, and another hearing has been set for February 11, at which time the allowable may be changed if it is deemed advisable.

The new proration order is the result of a hearing held January 26 before the Oklahoma Corporation Commission, on a petition of the umpire's committee and it follows the recommendations made by that committee. Opposition to the suggestions was made by the Plains Petroleum Co.

The first section of the new order fixes two proration periods per month instead of one. The first period for February expires at 7 a. m., February 16, and the second period expires at the same hour March 1.

Provision is also made in the order for producers to file with the commission, after each period a statement showing the amount of production, method of transportation, and amount shipped, the amount of stocks on hand, and name of purchaser and transporters handling each shipment.

Divides the Production

The order also defines the principles and terms used throughout the order and provides for the method of figuring the allowables. The third section of the order allocates the allowable production. Under the terms of the order the Silicious lime zone is permitted 6,000 bbls. a day, the amount to be distributed by agreement of the producers. This amounts to a reduction of 1,000 bbls. a day from the previous order. It was brought out at the hearing that the daily average production of the lime zone area was 5,950 bbls. a day for January.

A flat exemption of 25 bbls. a day was given all wells outside of the lime area, in lieu of the 37½ bbls. allowed under the order of January 1. This allows these wells a total of 16,875 bbls. per day. Wells making 3 per cent or more water, outside of the lime zone area, are granted an exemption of 100 bbls. a day, or a total of 8,100 bbls. per day.

Underproduced and underrun oil is allowed 1.5 per cent of the total, or 50,250 bbls. per day for the field. Provision is also made for adding the current stocks of January to the deferred underage. The remainder of the 13,775 bbls. a day was allotted to wells even with the proration, on a basis of one-half of 1 per cent for all wells outside of the lime zone.

The order also states that there is an estimated 3,350,000 bbls. of underage in the field as of February 1. It was estimated at the hearing that the underage in the field could be disposed of within 65 days at the rate named in the order.

Ray M. Collins in Charge

Ray M. Collins, state umpire, became pipe line umpire of the Oklahoma City Field, February 1. An effort is being made to cope with the underproduction, which has become serious, and all operators agreed to place Mr. Collins in charge of the pipe line situation.

Mr. Collins has been working in Oklahoma City during the last week meeting gaugers, pipe line representatives, producers and members of the Corporation Commission. He has almost finished the work of allocating the shipments with the co-operation of the pipe line companies. It is believed the plan will become effective at once and that all the producers could be assured of an outlet for their production during the first period of the new proration order.

The umpire's committee which attempted allocation of the pipe line shipments several weeks ago, but met with considerable opposition has abandoned the plan.

Umpire Collins has placed J. E. Flynn, of his staff from the Greater Seminole area, in charge of the local office, which is being maintained in one of the pump stations in the field. It is believed that a similar plan was used in the Greater Seminole area some time ago, when many of the producers were unable to get pipe line outlets. It is said that Mr. Collins will have the co-operation of the purchasing companies and owners of gathering lines so that the plan can be made as flexible as possible.

The appointment of Mr. Collins may mean that an individual umpire may be placed in charge of production. At the present time the umpire's committee of three, W. N. Stokes, of Tom Slick Oil Co., C. O. Rison of Indian Territory Illuminating Oil Co., and P. G. Patton, Plains Petroleum Co., has served since the military shut down was lifted last October and it is believed they would like to retire.

More Opposition

At the hearing before the Oklahoma Corporation Commission January 26, on the petition of the Plains Petroleum Co. which was opposing the proration of the Oklahoma City Field, the company was joined by the Bengail Oil Co., Denver Producing & Refining Co., Mid-Texas Oil & Gas Co. and R. A. McArthur.

Officials of the Plains Petroleum Co. agreed with the majority of the operators to the recommendation of 95,000 bbls. a day maximum allowable, but opposed allowing special exemptions. It was suggested that the lime zone be reduced from 6,000 bbls. a day allowable to 3,000 bbls. a day, and to eliminate the 25-bbl. flat exemption to all wells outside the lime zone. The company was opposed to adding the current underage to the deferred underage. The company suggested reducing the daily allowable of the water wells from 100 bbls. a day to 50 bbls. daily.

The company also suggested that the Corporation Commission be given authority to change the allowable of the field to meet the market demand immediately and without a hearing, upon a petition from the umpire's committee. It was also suggested that the allowable be fixed for 15-day periods only.

The company also charged that the exemptions permitted some of the producers to get a higher allowable percentage flow than others. It was claimed that the present proration schedule was not in accord with ratable takings. In pointing out the alleged inequalities given through the exemptions, the following summary of different companies showing their allowable and percentage of runs:

Company—	Potential	Actual	Pct.
Anderson-Prichard	115,498	90,843	2.5
Cromwell-Franklin	90,213	110,106	3.6
W. Franklin	72,895	109,131	4.8
Phillips	608,102	371,707	2.0
I.T.I.O.	533,682	295,486	4.1
Skelly	102,850	76,670	2.4
Westgate	84,660	48,980	1.8
Sunray	54,366	30,268	1.4
McArthur	27,402	15,977	1.8
Wilcox	73,340	48,498	2.2
American	13,047	7,683	1.9

Interesting Comparisons

Comparing offset wells, the company presented the following groups, showing their adjusted potential, daily allowable and percentage of allowable: Indian Territory Illuminating Oil Co.'s No. 1 Boulevard View, 1,159 bbls. potential, 159 bbls. allowable, which is 13.7 per cent; Denver Producing & Refining Co.'s No. 1 Whitten, 2,690 bbls. potential, 84 bbls. allowable, or 3.1 per cent; I.T.I.O. Co.'s No. 1 Lindsay, 1,493 bbls. potential, 65 bbls. allowable, 4.3 per cent.

Group No. 2: Indian Territory Illuminating Oil Co.'s No. 1 Mount Vernon, 622 bbls. potential, 153 bbls. allowable, 24.6 per cent; same company's No. 1 Ivanhoe, 1,290 bbls. potential, 62 bbls. allowable, 4.08 per cent; Century Petroleum Corp.'s No. 1 Barr, 4,494 bbls. potential, 119 bbls. allowable, 2.4 per cent; Tom Slick Oil Co.'s No. 1 Frost Heights, 925 bbls. potential, 56 bbls. allowable, 6 per cent.

Operators were notified before the Corporation Commission issued the new proration orders that the umpire's committee's allocation plan for pipe lines in the Oklahoma City Field, in order to prevent congestion and to permit an outlet for leases in the field, was being abandoned. It is believed that some of the large pipe line companies objected to the plan. Under the plan, allocations totaled 93,347 bbls. a day, with connections to all the leases and an assured outlet for all the crude. The success of the plan depended upon the co-operation of the pipe line companies in handling the crude.

John H. Peacock's No. 1 Walker, NW cor. SE SE, Section 10-11-3w, a completed well with a potential of 1,271 bbls. a day, cut the connections during the week while on production and threatened to go wild. It was brought under

(Continued on Page 65)

WILDCAT OPERATIONS IN OKLAHOMA

NORTHERN OKLAHOMA

ALFALFA COUNTY

Company, farm and location—	Remarks:
Smith Brothers' No. 1 Forbes, SE cor. NW NW, Sec. 12-27-11w	S.D. 1,232 ft.
J. W. Bailey's No. 1 Acre, SW cor. NE Sec. 14-24-11w	S.D. 5,502 ft.

ATOKA COUNTY

Campbell's No. 1 Baird, NW NE SW, Sec. 31-1-13	Rig.
Edgerton Edwards' No. 2 Rowland, SE NE NW Sec. 6-1-15	Rig.

BECKHAM COUNTY

Pattel Royalty's No. 1 Goose Tree, SW SE SW SE Sec. 32-10-23w	Rig.
Price-McFann's No. 1 Webster, C SW SW Sec. 34-8-26w	T.D. 2,344 ft.; plugged back to 1,890-1,900 ft.; 1,500,000 ft. gas.
Mid-Continent's No. 1 Schaff, C NE SW Sec. 22-11-22w	Waiting on cmt. to set 450 ft.
Mid-Texas Co.'s No. 1 Sidell, NE cor. SW SW Sec. 17-2-22w	S.D. 2,550 ft.
White et al's No. 1 Green, SW cor. Sec. 34-10-24w	S.D. 3,575 ft.

BLAINE COUNTY

Washoma Oil Co. et al's No. 1 Phillips, C NW SW Sec. 13-19-10w	S.D. 5,115 ft.

CADDO COUNTY

Abernathy & Brown's No. 2 Houston, Sec. 24-6-13w	S.D. 1,115 ft.

CHEROKEE COUNTY

La Fiere et al's No. 1 Woods, C SE SE Sec. 27-17-21	S.D. 1,504 ft.

COAL COUNTY

Radial Oil Co.'s No. 1 McGraw, NE NW Sec. 2-1s-8	S.D. 1,450 ft.
McCraw Oil Co.'s No. 1 Ward, NE SE, Sec. 35-1-8	Drlg. plug; showing 2,000,000 ft. gas 1,765-1,846 ft.; mudded off gas; S.D.; rig moved.
Whitney et al's No. 1 Miller, SE NE Sec. 10-2-8	S.D. 760 ft.

COMANCHE COUNTY

G. W. Stogner's No. 1 Doebel, C SW SW Sec. 2-3-9w	S.D. 1,450 ft.

GARFIELD COUNTY

E. L. Love et al's No. 1 White, SE cor. NW Sec. 9-24-6w	S.D. 5,850 ft.

GARVIN COUNTY

Malarnee et al's No. 1 Phillips, NE SW SE Sec. 24-2-2w	S.D. 4,830 ft.

GREER COUNTY

Dovell et al's No. 1 Capell, NW cor. Sec. 1-7-22w	5,000,000 ft. gas 1,455-65 ft. T.D. 1,760 ft.
French's No. 1 Murphy, SW NW Sec. 23-7-21w	S.D. 1,645 ft.

HASKELL COUNTY

Ault et al's No. 1 Harrison, CWL SE NE Sec. 14-9-19	S.D. 650 ft.
Ault et al's No. 1 Hall, NW SW SW, Sec. 14-9-19	S.D. 2,000 ft.
Ault et al's No. 1 Hall, SE NW, Sec. 25-19-9	S.D. 200 ft.
Holden's No. 1 Phillips, SE cor. Sec. 3-9-18e	S.D. 1,860 ft.
Marion Oil's No. 1 Sanders, NW NE NW, Sec. 10-9-18e	S.D. 2,387 ft.

KAY COUNTY

Harris & Haun's No. 1 Watson, SW NW, Sec. 28-28-1w	Rig.
W. H. Atkinson et al's No. 1 Hayes, SE NE Sec. 24-28-3	Drlg. 1,897 ft.
Lewis et al's No. 1 Harris, SE NW Sec. 14-25-1	Location.
Mummert Drlg. Co. et al's No. 1 Cormick, C NW SE Sec. 9-27-2	S.D. 2,693 ft.
Blackwell Oil Co.'s No. 1 Harshman, Sec. 2-26-1w	Rig on ground.

KIOWA COUNTY

Christian's No. 1 Jones, NE SE Sec. 3-7-18w	S.D. 820 ft.

LATIMER COUNTY

P. English's No. 1 Unknown, NW SE, Sec. 16-6-19	S.D. 1,542 ft.

LE FLORE COUNTY

Dowd et al's No. 2 Thomas, SE NE, Sec. 16-3-22	S.D. 1,255 ft.

LINCOLN COUNTY

Hilton Phillip's No. 1 Phillips, SW NW, Sec. 2-14-3	S.D. 4,840 ft; may skid rig.
Mote et al's No. 1 School Land, NW cor. Sec. 36-17-5	S.D. 1,160 ft.

McINTOSH COUNTY

Patterson et al's No. 1 Smith, SW cor. NW SE, Sec. 32-9-16	Top Wilcox 5,443 ft; top Siliceous 5,680 ft; T.D. 5,902 ft; abd.

MURRAY COUNTY

Capitol Prod. Co.'s No. 1 Cutchall, SE NE, Sec. 6-1-2	Abd. 2,425 ft.

MUSKOGEE COUNTY

Sioux Oil Co.'s No. 1 Unknown, NW SE, Sec. 21-11-19	S.D. 1,011 ft.

OKFUSKEE COUNTY

Shepard et al's No. 1 Nevens, SE NW SW, Sec. 3-12-10	S.D. 3,638-90 ft.; Wilcox sand; hole full water.

(Continued on Page 53)

Ritz-Canton Well Makes 5,200 Barrels

Production of Kansas Stays Well Below the Allowable of 100,000 Bbls. Suits by Operators and Landowners

By W. A. Spinney
Staff Correspondent, Kansas Fields

Kansas production shows an increase of 800 bbls. daily for the week ending January 30, over the previous week. The daily average was 98,420 bbls. a day indicating that the operators are co-operating with the curtailment plan which limits the State to a production of 100,000 bbls. per day.

G. P. Dickey's No. 2 Decker, NW cor. SW SE, Section 35-19-2w, on the west side of the Ritz-Canton Field, produced 5,200 bbls. the first 24 hours. The log shows the top of the chat at 2,931 feet, considerably higher than in other wells in the vicinity. Gas was found at 2,934 feet and oil at 2,956 feet. The well, an east offset to H. Rosenthal's No. 1 Deilman, in Section 35-19-2w, is a 2,000-bbl. producer from the chat, completed several weeks ago, which extended the production in the field a half mile west. G. P. Dickey's No. 1 Decker, SE cor., Section 35-19-2w, was completed several months ago for 6,722 bbls. in 24 hours. Dickey is a resident of Wichita.

The Ritz-Canton Field is being steadily developed notwithstanding the strict conservation which permits only 11 per cent of the potential to be produced from each well daily. The seventy-first and seventy-second Viola lime wells were completed during the week. Syndicate Oil & Gas Co.'s No. 3 Becker, NW cor., Section 36-19-2w, was standing full of oil from the Viola lime at 3,397-98 feet. Same company's No. 4 Becker, SW cor. NW NW, Section 36-19-2w, found the top of the Viola lime at 3,395-96 feet and filled the hole 2,000 feet with oil.

Stanolind Oil & Gas Co.'s No. 1 Johnson, in Section 28-19-1w, is landing casing at 3,000 feet and will be drilled to the Viola lime formation. Same company's No. 1 Kelly, NW cor. SW NW, Section 34-19-1w, was shut down waiting for tools. Both of these tests were semi-wildcats located south and east of production in the Ritz-Canton Field.

Derby Gets Temporary Injunction

Derby Oil Co. was granted a temporary injunction by Judge J. E. Alexander, of the district court of Sedgwick County, against the Kansas Public Service Commission, after a petition had been filed declaring the order of January 22, prorating the Eastborough Pool, was discriminatory and unfair. The court ordered that the validity of the January 22 order of the commission be argued at Wichita, February 2.

The objection of the Derby Oil Co. and some others interested in the Eastborough Pool, is based upon the ruling providing that beginning January 1, the potential rating for leases in the pool should be computed by dividing the total number of barrels produced in October and November by 61. The allowable was fixed at 86 per cent of the potential.

Since that time additional production has been obtained by drilling the chat wells to the deep pay horizon, called the Viola lime. The Derby Oil Co. has increased its production from an average of 591 bbls. a day in October and November to between 2,200 and 2,400 bbls. daily, now.

The petition declares that the order, if it remains in effect, will permit adjoining leaseowners to drain oil from under the Derby Oil Co.'s leases, particularly the Eastborough estate's lease, in Section 19-27-2.

Derby Oil Co. officials point out that the company has a potential of between 2,200 and 2,400 bbls. a day from six Viola lime wells on the Eastborough lease, while other operators are permitted to produce almost 100 per cent of their potential. Magnolia Petroleum Co. owning the adjoining lease on the east has a potential of around 2,200 to 2,400 bbls. daily, is allowed to produce 2,082 bbls. a day from their four wells, complainant avers.

The Eastborough Pool has 28 wells producing from the Viola and 16 wells from the chat formation, of which the Derby has 6 wells producing from the Viola lime and 2 from the chat.

Farmers Fight Conservation

The suit filed in Rice County, at Lyons, by landowners to test the legality of the Kansas conservation law is being followed by independent operators and major companies. The law is based on waste, which is defined as having not only its ordinary meaning, but as including underground waste, surface waste, and waste of gas energy, and waste incident to the production of crude oil or petroleum. The Kansas Public Service Commission has the authority to make rules and regulations for the prevention of such waste, and for the protection of all fresh-water strata, and oil and gas bearing strata encountered in any well drilled for or producing oil.

The conditions in the Schurr Pool, near Raymond, in Rice County, were as follows: The discovery well was completed in August, 1929, and it was a considerable distance from any market outlet and was shut in. Since that time and up to December, 1930, 11 wells were completed. In July, 1930, the Independent Oil & Gas Co., which was the only purchaser of the crude, tanking 50 bbls. a day from each well and shipping it out in tank cars from a loading rack nearby, withdrew. The field was shut in from July to December, 1930, when the Prairie Pipe Line Co. completed a line into the field and purchased 50 bbls. a day per well during December and then withdrew as a purchaser January 1, 1931. The production was shut in until October 1, 1931, when the Stanolind Crude Oil Purchasing Co. started purchasing 2,200 bbls. a day, which is 15 per cent of the potential, using the Prairie Pipe Line Co.'s pipe line.

Since the Schurr Pool was discovered more than a dozen wildcat wells have been completed along the Barton or Ellsworth Arch, found in Stafford, Rice, Barton, Ellsworth and Rush Counties. These wells ranged in initial production from 200 to 3,000 bbls. and have been restricted to 15 per cent of their potential. It was only recently that the majority of the wells completed outside of the Schurr Pool found a market outlet.

Several meetings have been held where members of the Public Service Commission, landowners and operators have discussed the situation.

In fighting oil conservation, Kansas farmers are not taking the attitude adopted by landowners in the Oklahoma City Field, who did nothing to interfere with curtailment of operations or production because they decided that whatever was good for oil producers was good for the royalty owners. They concluded that unrestricted development and production would result in very low prices for oil and they decided that they would get more ultimate return from their royalty interests by going along with the producers.

Central western Kansas has been both encouraging and discouraging to operators with leases along the Barton or Ellsworth Arch. Some dry holes have been completed offsetting large producing wells and in some cases only small wells have been found offsetting large Siliceous lime producers.

Complaints of Gas Waste

A meeting has been called by the Public Service Commission for February 9, to discuss the complaints that gas is being wasted in McPherson County. During the last two years McPherson County has become the leading gas producing county in the State. The main producing areas are the Decker gas field and the northeastern part of the Ritz-Canton Field. The combined open flow of McPherson County is estimated at 950,000,000 feet a day. The gas is found in the chat and in a large number of cases deeper production has been found in or near these wells in the Viola lime. In some cases these gas wells have been drilled deeper to the Viola lime and it is claimed that this results in the gas escaping and being wasted.

Operators who have been unable to find a market for gas are more interested in finding oil production. The gas market in Kansas at the present time is supplied from the wells in the Hugoton gas field in Stevens and Morton Counties and from Barber County. This gas is going into the large interstate gas pipe lines which were laid directly to those fields. The Hugoton gas field has approximately 160 completed gas wells with a combined open flow capacity of 810,000,000 feet a day.

It is estimated that the interstate pipe line companies have been drawing approximately 54,000,000 feet of gas daily from the Hugoton Field for use in other states. While no tests are drilling in the Hugoton Field it is expected that the area may become active later in the year. Extension wells have been completed in Grant and Haskell Counties, Kansas, and in Texas County, Oklahoma, on the south. Geologists estimate that only a small part of the field has been developed and there are believed to be thousands of undrilled locations underlain with gas.

Estimate on Ultimate Production

The production found in all wells on the Barton Arch has come from the Arbuckle dolomite, more commonly known as the Silicious lime. Many geologists believe that the area flanking the Barton or Ellsworth Arch will be one of the largest pools yet found in the State. A survey of the area by various geologists indicates that they believe the average yield per acre of this district will be in the neighborhood of 8,000 bbls. Many expect the area to be a series of pools covering only a small amount of acres.

The area comprising the Barton or

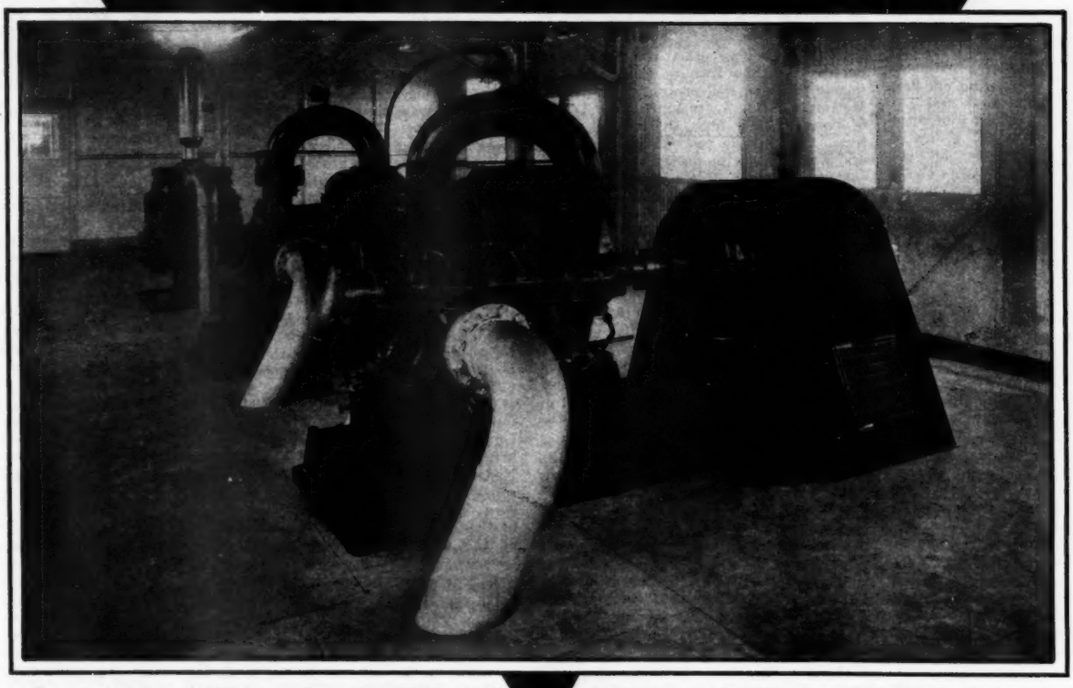
(Continued on Page 54)

WILDCAT OPERATIONS IN KANSAS

(Descriptions are East unless marked otherwise)

Company, farm and location—	Remarks:
BARTON COUNTY	
Syndicate Oil Co.'s No. 1 Bortez, NW SE SE, Sec. 3-18-12w	U.R. 3,523 ft.
Skelton Oil Co.'s No. 1 Ott, C SE SE, Sec. 16-19-14w	S.O. 3,225-28 ft; 3,304-10 ft. wtr.; S.D. 3,375 ft.
McCool et al's No. 1 Tsern, NW SE NE, Sec. 12-20-11w	S.O. 3,313-29 ft; pumped 600 bbls. per day.
DICKINSON COUNTY	
Severe et al's No. 1 Lavengood, NE SW, Sec. 13-13-2	S.D. 4,752 ft.
ELLSWORTH COUNTY	
R. Gear et al's No. 1 Sanberth, C SW SE, Sec. 29-16-9w	Shut down.
Alyward et al's No. 1 Stratman, SE NW SE, Sec. 1-17-10w	Siliceous 3,255-71 ft.; 117 bbls. 2 hrs.; shut in; estimated 2,000 bbls.; no pipe line connections.
Aladdin Pet.'s No. 1 Stoddenberg, C SW, Sec. 22-16-10w	Siliceous lime 3,332-47 ft; estimated 1,500 bbls. a day; shut in.
FINNEY COUNTY	
National Ref. Co.'s No. 1 Wells, C SW, Sec. 13-23-30w	Drlg. 3,610 ft.
HARVEY COUNTY	
Liggett et al's No. 1 Davis, SW SE NE, Sec. 7-24-1	S.D. 2,500 ft.
KINGMAN COUNTY	
Skelly Oil Co.'s No. 1 Miles, NE cor., Sec. 30-27-10w	1,635-40 ft., 2,000,000 ft. gas; at 2,005-20 ft., 6,000,000 ft. gas; at 1,133-42 ft., 3,000,000 ft. gas; showing oil 3,385 ft; T.D. 3,504 ft.
Panhandle Drlg. Co.'s No. 1 Wetheral, C SE NW SW, Sec. 20-28-10w	Spudding.
McPHERSON COUNTY	
Twin Drlg. Co.'s No. 1 Farver, SW SE, Sec. 16-20-1w	Drlg. 2,000 ft.
Shell Pet. Corp.'s No. 1 Johnson, SE SW SW, Sec. 35-19-3w	Top chat 2,984-94 ft; 1,000,000 ft. gas; C.O.
MORTON COUNTY	
Hydraulic Oil Co.'s No. 1 State Land, NW SE, Sec. 22-34-43w	T.D. 3,640 ft; temp. abd.
MORRIS COUNTY	
Allender et al's No. 1 Wycoff, C SW SE, Sec. 5-17-7	S.D. 105 ft.
Urschel et al's No. 1 Bersuch, NW SE NW, Sec. 10-17-7	Fishing 915 ft.
Hankerson et al's No. 1 Cessman, SW SE, Sec. 24-16-9	S.D. 2,625 ft.
NORTON COUNTY	
Richards et al's No. 1 Colby, Sec. 17-4-21w	Rig.
OSAGE COUNTY	
Briggs & Smith's No. 1 Wood, SE NW, Sec. 21-14-15	S.O. 2,190-2,200 ft; S.D.
RAWLINS COUNTY	
J. G. Durham et al's No. 1 Weaver, SE cor., Sec. 3-2-35w	S.D. 3,925 ft.
RICE COUNTY	
Gypsy Oil Co.'s No. 1 Steckel, C NE NW, Sec. 31-19-10w	Drlg. 1,000 ft.
Cress et al's No. 1 Sharp, SE NE, Sec. 13-20-10w	S.O. 3,107-15 ft; Siliceous 3,330-36 ft; shut in.
RUSSELL COUNTY	
J. Brennan's No. 1 Waly, CNL E½ NW, Sec. 29-13-11w	Rig.
T. Palmer et al's No. 1 Pasek, C SE, Sec. 3-14-11w	Drlg. 1,120 ft.
RUSH COUNTY	
Skelton et al's No. 1 Brock-Hartman, SW SE NE, Sec. 4-18-16w	S.D. 50 ft.
SALINE COUNTY	
Twin Mounds Oil Co.'s No. 1 Weis, C W½ NE NW, Sec. 20-13-4w	S.D. 2,710 ft.
SHERIDAN COUNTY	
Flo et al's No. 1 Shoemaker, SE SW, Sec. 27-7-26w	4,040-45 ft; wtr.; fishing.
STAFFORD COUNTY	
Rosenthal, Stanolind and Amerada's No. 1 Gray, C NE, Sec. 11-24-31w	S.O. 3,829 ft; 500 ft. oil in hole; Siliceous lime 4,017-52 ft; wtr; S.D.
STEVENS COUNTY	
Argus Prod.'s No. 2 Christopher, C NE, Sec. 10-33-39w	S.D. 5,521 ft.
SUMNER COUNTY	
Trees Oil Co. and Shell's No. 1 Springate, NE SE SW, Sec. 6-34-2	S.D. 2,560 ft.
WASHINGTON COUNTY	
Sincox et al's No. 1 Penwell, NW SE NE, Sec. 16-3-3	S.D. 1,720 ft.

O. L. Multiplex Pumps



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CENTRIFUGAL PUMPS FOR EVERY SERVICE

Two Zwolle Semi-Wildcat Extensions

Western Flank Tests Develop 3,000 Bbls. Initial in One and 2,000 Bbls. in Another. Mississippi Gets Another Good Gas Well

By J. R. Crumpton
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Feb. 1.—The western flank of the Zwolle Field in Sabine Parish has been the center of interest in this district during the past week. The results of two semi-wildcat tests in this area extended production one-half mile west and 1½ miles southwest from the group of producers of the original western pool in the northern part of Section 1-7-13. The farthest extension, Rush and French's No. 1 Martinez, in the northwest corner of Section 11-7-13, was completed with an estimated initial flow of 3,000 bbls. of pipe line oil from chalk at 2,398 feet. The well was shut in for pipe line connections, and when reopened, gauged 2,880 bbls. of fluid daily through seven-sixteenths inch choke, 50 per cent of which was salt water. The presence of salt water in the well was quite a disappointment as the original flow indicated a good gusher of pure pipe line oil. The top of the Zwolle marl was encountered in the test at 2,066 feet and the top of the chalk at 2,150 feet. As the base of the chalk is around 2,500 feet in this part of the field, the salt water has evidently penetrated into the chalk through a soft spot or crevice which carries the oil production.

About 1½ miles northeast from the Rush and French well, toward the proven area, the Contes Petroleum Co.'s No. 1 Parie, Section 2-7-13, three-fourths of a mile west of production, has experienced better results. This test, after setting 6-inch casing in marl at 2,066 feet, had a good gas show at 2,097 feet, but bailed dry at 2,179 feet. The hole was deepened to 2,405 feet and a test developed an initial flow estimated at 2,000 bbls. daily. The operators have experienced some difficulty in completing the well, as 400 feet of the 6-inch casing collapsed on the test. Arrangements are being made to set a string of 4½-inch inside of the collapsed 6-inch. This well is expected to make a good producer, as no water has shown in the tests, and a better gas show has been obtained than in other wells in that vicinity. The results of these two wells, together with two dry holes drilled slightly to the west in Section 2 about two weeks ago, indicate that this part of the Zwolle Field and the Blue Lake Pool, the original producing area about 7 miles southwest, may eventually be connected. The producing area will more than likely be confined to a narrow winding strip of limited width.

There were two other completions reported from the Zwolle Field, resulting in one producer and one dry hole. L. K. McGuffin's No. 1 Bush, Section 1-7-11, is pumping 100 bbls. daily from 2,493 feet. The well is near Merritt and others' No. 1 Byrd, the discovery well of the eastern extension of the field. Ohio Oil Co.'s No. 11 Bowman-Hicks, Section 2-7-12, had only a small gas show of oil and gas and was abandoned at 2,600 feet.

Mississippi Completion

The other completion for this division was reported from the Jackson Field of Mississippi. Ridgeway & McGehee, Inc., completed its No. 1 Mosal, Section 24-6n-1e, with an estimated initial flow of 25,000,000 feet of dry gas and 985 pounds rock pressure from 2,460 feet. The new gasser is a one-half mile extension of production to the northeast wing of the Hinds County area.

The Jackson Field continues to be the most active gas area in this division with eight good gassers completed during the past month for a total initial open flow of 309,000,000 feet. Rankin County, on the east side of Pear River, contributed six of the wells and Hinds County, two. Only one dry hole was reported from that area, a wildcat 1½ miles from the nearest production.

Richland and Monroe

The Richland and Monroe gas fields of North Louisiana have reached the lowest ebb of drilling activity since their discovery, probably due to the fact that the present daily allowable is sufficient for the pipe line runs and carbon black plants. There are only two drilling operations in each of the parishes of Richland, Ouachita and Morehouse, and with only one completion reported from the Richland area during the past month. Sabine Parish is the most active oil area, having a total of 28 wells drilling or waiting on standard rig, and with six rigs on location. The initial new daily production from the Zwolle Field during January totaled over 5,500 bbls. in comparison with 120 bbls. for December. The percentage of producers in comparison with dry holes was higher than usual in this area, the records showing seven oil wells against six failures.

East Texas

In Shelby County, East Texas, the United North & South Production Co.'s No. 1 Windham, A. H. English Survey, has been testing during the past week. The wildcat has been shut down for some time with four fourbles of drill stem hanging in the hole, about 12 feet of which was above the surface of the derrick floor. Recently, gas and oil worked through the heavy mud and the well began making heads of oil, mixed with mud, averaging about two heads of short duration every 24 hours. The operators have since set 6-inch casing at 3,354 feet with the total depth at 3,391 feet, and are arranging to wash the hole and bail. The oil is reported to test 41 gravity. The wildcat is an offset to the Sloane-Tokio Oil Co.'s No. 1 Windham which had good shows from the Blossom and Woodbine formations before encountering salt water. These tests are in what is called the Shelbyville area, 7 miles southeast of the town of Center. Another wildcat in Shelby County, Harry Elliott's No. 1 Pickering Lumber Co., G. H. Patterson Survey, is arranging to set casing for a test in the Nacatoch at 1,495 feet. The well made considerable oil with a strong gas pressure from this depth. It is northeast of Center, and a few miles southwest of E. L. Chapman's gas well near Joaquin.

New Locations

New drilling permits for the week include H. I. Morgan's No. 1 Strange, Section 23-19-11, in the shallow Trinity gas dome, 2 miles south of the Bellevue Field, Bossier Parish. The new test is an offset to the east of his No. 1 Smith, in Section 22, which was completed last week as a 17,000,000-foot gasser from 1,770 feet. In the Urbana district of Union County, Arkansas, Wilson and Chapman have staked two new locations. Derrick pattern is on the ground for their No. 1 Emily King, Section 3-18-13, and they are rigging up No. 1 K. D. Parker in the same section. W. M. Coates is moving in rig to drill on the Mansfield Hardwood Lumber Co.'s mill-site tract just north of the town of Zwolle. It is understood that the fee owners are furnishing the derrick and fuel together with the lease for 50 per cent of the production. Cass County, East Texas, reports one new operation. William S. King is moving in rig for a test on No. 1 D. W. McDonald, Martha Ingram Survey.

With the exception of a few large blocks being assembled, practically all of the drilling operations in North Louisiana, Arkansas and Mississippi are at present being carried on in close proximity to proven fields. There is only one active wildcat in Mississippi at this writing, the United Gas Public Service Co.'s No. 1 Lenhart, Section 14-14n-6w, in Sharkey County. Machinery is being installed and the test will spud in within a few days. The Mississippi-Minnesota Oil Co. has built a derrick on No. 1 Edwards Land Co., Section 23-6n-4w, in western Hinds County. In Little River County, Arkansas, Stephens and others' No. 1 Dierke Lumber Co., Section 23-15s-16w, is drilling in hard sand at 2,863 feet. A semiwildcat in Union County, H. H. Helms' No. 1 Berry Davis, Section 31-16-14, is drilling in sandy shale at 2,000 feet.

Daily Average Runs

North Louisiana declined 195 bbls. in its daily average runs during the past week, but Arkansas registered an increase of the same number of barrels daily to leave the runs from the two areas the same as last week. Daily average runs from the several pools were:

NORTH LOUISIANA	
Caddo, light	5,410
Caddo, heavy	1,640
Cotton Valley	520
DeSoto and Red River	2,060
Elm Grove	325
Haynesville	5,000
Holly	300
Homer	2,840
Pleasant Hill	350
Sarepta-Cartersville	840
Urania	3,200
Zwolle	6,340
Total North Louisiana	28,835
Total previous week	29,030
Decrease	195
ARKANSAS	
Champagnolle	1,900
El Dorado	3,140
Lisbon	560
Nevada	1,160
Smackover, light	2,940
Smackover, heavy	23,870
Stephens	670
Urbana	280
Total Arkansas	34,520
Total previous week	34,325
Increase	195
Total both states	63,355
Total previous week	63,355
Difference	0

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Rotary operations unless otherwise designated)

NORTH LOUISIANA

AVOYELLES PARISH

Company, farm and location—	Remarks:
Stauffer & Eshleman's No. 1 Caruth, Sec. 40-1n-7e	Derrick.

BOSSIER PARISH

Andrews & Davlin's No. 1 Nattin, 100 ft. N, 250 ft. W, C, Sec. 15-22-14	W.O.S.R. 2,890 ft.
Dr. W. N. Hankin's No. 1 Newell, 300 ft. S and W, NE cor., Sec. 13-19-11	S.D. 1,775 ft. for fuel.
H. I. Morgan's No. 1 Strange, Sec. 23-19-11, 660 ft. N and E, SW cor.	Set 10-in. 123 ft.

CADDO PARISH

Calatex O. & G. Co.'s No. 1 W. B. Hudson, Sec. 8-16-16, 2,640 ft. E, 2,865 ft. NW cor., Sec.	Location.
Louana O. & G. Co.'s No. 1 Hammock, Sec. 32-19-6, 660 ft. N and W, SE cor.	Set 10-in. 102 ft.

CALDWELL PARISH

Carter Bell's No. 1 Taylor, 150 ft. S, 150 ft. E, NW cor. NE SE, Sec. 17-14-4	Drlg. 1,100 ft.
Hudson et al's No. 1 Burton, Sec. 35-12-2e	S.D. 2,950 ft.

CATAHOULA PARISH

National Drlg. Co.'s No. 1 Marsh McMiller, 70 ft. N, 100 ft. W, C, Sec. 26-9-6	T.A. 3,097 ft.

DE SOTO PARISH

E. T. Oakes' No. 1 R. H. Bryant et al, 200 ft. N and W, SE cor. NE NW, Sec. 30-13-15	Drlg. 3,076 ft.
Rellitt Oil Co.'s No. 1 Ganno hrs., 300 ft. S and E, NW cor. NW NE, Sec. 13-11-16	S.D. 1,965 ft.
A. R. Smith's No. 1 Horn, Sec. 16-12-16, NE cor. Sec.	Rigging up.
A. A. Tutin's No. 1 Mickie, Sec. 7-13-12	Location.
Walters-Nicholson, tr.'s No. 1 Jim Guy, Sec. 3-11-13	S.D. 1,266 ft.

(Continued on Page 48)

LOUISIANA-ARKANSAS PROVEN AREAS

NORTH LOUISIANA

CADDO PARISH—PINE ISLAND

Company, farm and location—	Remarks:
Shreveport Oil Corp.'s No. 2-B Muslow, 1,000 ft. S, 300 ft. E, NW cor., Sec. 32-21-15	S.D. 2,135 ft.
Simplex Oil Co.'s No. 1 Youree-Glassell, 500 ft. N and E, C, Sec. 13-20-15	S.D. 2,275 ft.

MOREHOUSE PARISH

Southern Carbon Co.'s No. 57 fee, Sec. 9-20-4e, 660 ft. N, 1,317 ft. E, SW cor.	Set 12½-in. 182 ft; drlg. 519 ft.

OUACHITA PARISH

Carbon Cons.' No. 7 Guthrie, Sec. 50-20n-4e, 5,263 ft. N, 7,475 ft. W of cors. of Secs. 25, 26 and 49, in Sec. 50	Location.

RICHLAND PARISH

United Gas Public Service Co.'s No. 1-B Alice Purvis, Sec. 34-17-6, 81 ft. N, 599 ft. W, of center of Sec.	Drlg. 1,709 ft.

SABINE PARISH—ZWOLLE

Pelican Nat. Gas Co.'s No. 11 La. Long Leaf Lbr. Co., Sec. 10-7-11, 330 ft. N and W, SE cor. NE NW	W.O.S.R. 2,592 ft.
Smith et al's No. 1 Hale, Sec. 1-7-13, 330 ft. S and W, NE cor. NW SE	Drlg. 2,290 ft.
A. F. Tarver's No. 2 Cutrer, Sec. 13-7-11, 330 ft. S and W, NE cor. NW NW	W.O.S.R. 2,550 ft.
O. J. Baird's No. 1 Duggan, Sec. 14-7-11, 325 ft. S, 648 ft. E, from C of Sec.	S.D. 2,545 ft.
Ray Baker's No. 1 Sabine Lbr. Co., Sec. 1-7-12	W.O.S.R. 2,548 ft.
W. M. Cates' No. 1 Bowman-Hicks, 330 ft. S and W, of C, Sec. 8-7-12	W.O.S.R. 2,441 ft.
Crescent Drlg. Co.'s No. 2 Byrd, Sec. 12-7-11, 330 ft. S and W, NE cor. NW NE	Set. 6-in. 2,438 ft.

(Continued on Page 49)

Find Better Showing in Escobas Field

Gas in Northern Jim Wells County Wildcat. Two Million Feet Found in Northern McMullen County Test. New Tests in Saxet

By B. D. Stevenson
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Feb. 1.—A better showing than anything had in a long time in the Laredo district in Daniels & Hill's No. 1 Montemayor in the Escobas Pool, a showing of gas in the Gulf Production Co.'s No. 5 Shaeffer, a wildcat in northern Jim Wells County, at around 2,350 feet and about 2,000,000 feet of gas at 370 feet in the Texas Petroleum Co.'s No. 1 Two Rivers ranch in northern McMullen were among the features of the past week of more than ordinary interest. The week was tempered by M. W. Eiser's No. 1 Wells in Guadalupe County, 6 miles south of the Darst Creek Field, being a dry hole in the Edwards with the formations running high.

In the Escobas Pool in Zapata County Daniels & Hill's No. 1 Montemayor in the southwest corner of Block 7, Survey 64, at 1,484 feet and in the second sand of the field flowed over the crown block and when turned into the slushpit made around 50 bbls. in 15 minutes. It was shut in for storage to be completed later in the week. It shows up the best of any well in that field thus far completed and if it performs as well when finally completed and on continuous production it will be a real sensation for the field.

This well is the farthest north of any well in the second sand. It is in the southern part of the shallower 1,300-foot sand area but lying a little east of a line through the center of that part of the field. South of it Etheridge and Killam and some others have been bringing in some pretty good wells in that sand. Etheridge started the development with a 500-bbl. well on a Sun Oil Co. lease. It was completed at 1,477 feet late last October, located 640 feet from the northeast line and 150 feet from the northwest line of the Sun Oil Co.'s 80-acre lease in Share 35 of Fansler's Partition of the Comitas grant. Previous to that activity was very negligible in the district. This sand had been found before that in the Wicker well about a mile farther south, but development lagged when the wells were only ordinary. Development started north from the Etheridge test and 30 good wells have been brought in since last November gradually extending this 1,475-foot sand farther north.

There are no dry holes in the second sand in the northern part of the field where the 1,300-foot sand is producing and if Daniels & Hill's No. 1 Montemayor proves as good as it looks it is likely to start a drilling campaign through the leases lying immediately east and adjoining the 1,300-foot production.

Gulf Production Co. Wildcat

Gulf Production Co.'s No. 5 Shaeffer, a core test in northern Jim Wells County, blew out while coring at 2,457 feet. A drill stem test at 2,348 feet showed 450 pounds gas pressure and one at 2,364 feet was dry, and it is assumed the gas was from a sand somewhere between the two. The company is continuing to core deeper. Gulf Production Co. owns a lease on the Schaeffer ranch extending almost across the northern part of the county. It is 13 miles airline from the Gulf's first core test on the southwest, just over the line in Duval County to the No. 2 Schaeffer on the northeast.

No. 5 Shaeffer is about 1½ miles north and slightly west of Carsil Oil & Gas Co.'s gas well on the McGill land in the William D. Baldwin Survey, which was completed with total depth of 2,804 feet. No. 1 McGill of the Carsil Oil & Gas Co. came in at 2,690 feet for a good gas well, but the hole was lost. No. 2 was drilled 900 feet north of it and was dry and abandoned at 4,272 feet. No. 3 is two locations east and one south of No. 1 McGill and it made a gas well after being shot. It got the formations a little lower and tighter. It is believed now that No. 2 would have made a well if shot as it got the formations about the same as No. 3. No. 1 got the formation in a sand but in the same horizon as Nos. 2 and 3 got lime, and it is the theory that the sand body lies to the west.

The Gulf test has picked up a sand shallower than in the Carsil wells but is a half mile west of the Carsil gasser and has quite an important bearing on that district. The Carsil Oil & Gas Co. since completing No. 3 McGill has not attempted to further develop its lease block.

One other wildcat that had a little showing the past week was the Texas Petroleum Co.'s (V. G. Schimmel) No. 1 F. A. Hale, which had about 1,000,000 feet of gas at 370-382 feet. They are continuing to drill.

Wolcott & Rehmet of Alice are getting ready to drill a test on the Parr land, 6½ miles northwest of San Diego and adjoining the Gulf's Shaeffer ranch lease on the west. Also there is to be another test on Parr land, a separate tract some distance to the south.

During the past week Magnolia Petroleum Co.'s (Vacuum) No. 1-B Duval Land Co. in the southeast corner of Survey 96 and about 6 miles north of the Government Wells Pool in northern Duval ran into a sand at 1,653-58 feet which had enough of a showing that arrangements were being made to test it.

Saxet Field

Saxet Field is to get some further interesting tests. Houston Oil Co. is starting to drill No. 1 McGregor, one-half mile or more north of the most northerly producer in the field, which is Gulf Coast Oil Co.'s No. 1 Maggie Harrell, which is an oil well in the 4,550-foot sand and the discovery well in that sand. This test of Houston Oil Co., which has a refinery within a mile of the test, and further efforts to pick up the 4,800-foot sand and make a producing sand of it to be made by Neal, Milton & Kepley farther east, are the most important developments at this time in that field.

Pettus District

Slick-Seeligson, Inc.'s No. 3 Ray in the Pettus Field, an east offset to The Texas Company.'s No. 1 Gremmel, was completed the past week for about 750 bbls. a day which is about the same size as The Texas Company's test and the Buck Oil Corp.'s No. 2 Ray offsetting it on the south. Late in the week the Houston Oil Co. was bringing in its No. 3 Portis at 3,919 feet, which extends the new part of the Pettus district one location to the east and nearer to the townsite pool.

The only other tests in the field at interesting depths are McMurray and others' No. 1 Ray, which will extend the field about two or three locations west and which was coring at 3,900 feet late in the week and expecting any minute to go into the sand. Also The Texas Company's No. 2 Gremmel is down close to the sand depths and was expected to be in the sand the first of this week.

Quite a few new locations should normally be expected from the field this week since there are some offsets that are naturally called for. Buck Oil Corp. will have to drill some more offsets to The Texas Company and Slick-Seeligson will have to drill a north offset to the Houston Oil Co.'s No. 3 Portis. They have the location made.

Fifteen miles northeast of the Pettus Field Simms Oil Co.'s No. 1 Stopkey in Goliad County, coring at 4,326 feet, looked doubtful. It is 1½ miles northeast of Slick Estate's No. 1 Poetter, which was the discovery well of a new producing spot and had a total depth of 4,213 feet. Slick drilled one other producer, No. 1 Allen, a little to the east of No. 1 Poetter, and has done no further developing. No. 1 Stropkey seems to be getting too deep.

Balcones Fault Zone

Along the Balcones Fault the disappointment of the week was registered when M. W. Eiser's No. 1 Wells, 6 miles south of the Darst Creek Field, came in a dry hole in the Edwards lime topped at 3,812 feet with total depth 3,863 feet compared with top of the Edwards at 3,896 feet, located 2,000 feet to the southeast. Eiser's test has been running high from the first and many had great faith it would make a producer in the Edwards. Grayburg's No. 1 Wells had a showing in the Edwards, but Eiser's test had nothing but an odor of sulphur in the Edwards lime.

One explanation is that Eiser got too far to the northwest and too far away from the Grayburg well. Fault line fields are narrow and a showing in the Grayburg well by some authorities would have been taken as indicating a new location not more than a few hundred feet to the northwest and up the dip.

In the coast county one of the most interesting tests is to be by the Big Lake Oil Co. on St. Joseph Island. Rig is being transported across to the island at this time. The island is about 20 miles long and from a half mile to 3 miles wide and Big Lake Oil Co. has recently acquired the lease. It is understood two deep tests are to be made. Levi Smith was recently in Southwest Texas looking after some arrangements.

There is an oil seep in the Gulf of Mexico about 2 miles from the center of the island. Two tests were drilled on the island several years ago. The first one was being drilled at the time of the big storm in September, 1919, and the rig and derrick were swept away. Both of the tests got some showings of oil. They were not so very deep. The expectation is that the Big Lake will drill deep.

Western Bexar County

In southwestern Bexar County, Tri-State's No. 1 Carruth, at 730 feet with oil seeping out over the top of the casing, is attracting a great deal of attention. The well is shut down while clearing titles. In the meantime Amsden, Ingersoll & Miller, 1½ miles southwest, are cleaning out at about 400 feet after setting 8-inch casing but seem to be running a little low. It may be due to a block fault.

The interesting thing about No. 1 Carruth is that the oil has a sulphur odor similar to the Edwards lime oil in the Luling Field and it is thought may be coming up a fault plane a little to the west of the test and thus getting into the shallow sand. There are chances there will be considerable activity in this part of the county northeast and southwest of it on other blocks. The oil from No. 1 Carruth is a rather light gravity oil, black in color.

SOUTHWEST TEXAS PROVEN AREAS

ECKERT POOL—BEXAR COUNTY

Company, farm and location—	Remarks:
Williams et al's No. 2 Strunk, Juan Montez Sur.	Rigging up.

NORMANNA POOL—BEE COUNTY

C. F. Nichols' No. No. 1 Hicks	T.D. 1,992 ft.; rigging to deepen.

PETTUS POOL—BEE COUNTY

Buck Oil Corp.'s No. 2 Ray, 628 ft. from E line, 150 ft. from N line of lease, S offset to Texas No. 1 Gremmel	T.D. 3,913 ft.; comp. 750 bbls.
C.R.&M. Drilling Co. and H. H. Weinert's No. 1 Ray, 150 ft. from N and E lines of lease in J. W. Williamson Sur.	T.D. 3,863 ft.; coring.
J. M. Davis et al's No. 1-B Ray, 150 ft. to N and E lines of 10-ac. lease, next south of Weinter's, John W. Williamson Sur.	Rigging up.
Houston Oil Co.'s No. 3 Portis, 300 ft. E of No. 2, A. Smalley Sur.	3,914 ft.; drlg. in.
J. L. Mauldin's No. 2 fee	Making location.
Slick-Seeligson, Inc.'s No. 3 Ray, 150 ft. from S and W lines of George A. Kerr Sur.	T.D. 3,892 ft.; bailing.
Slick-Seeligson, Inc.'s No. 4 Ray, N offset to Houston Oil Co.'s No. 3 Pettus	Location.
The Texas Company's No. 2 Gremmel, 300 ft. W of No. 1 Gremmel	T.D. 2,525 ft.; drlg.
The Texas Company's No. 3 Gremmel, N offset to McMurray's No. 1 Ray	T.D. 2,310 ft.; drlg.

(Continued on Page 50)

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

ATASCOSA COUNTY

Company, farm and location—	Remarks:
American Central Oil Co.'s No. 2 Mary McConnell, 150 ft. W of E line, 300 ft. S of No. 1, Blk. 138, W. C. M. Baker Sur., 3 miles W and ¼ mile S from Somerset	T.D. 1,635 ft.; drlg.
Glen Mathis' No. 2 Mrs. C. Martin, 100 ft. SE of No. 1	T.D. 2,980 ft.; S.D.

BLANCO COUNTY

Hardy-Sitton's No. 1 McMillan	T.D. 602 ft.; S.D.
Theo. Hicks' No. 1 Specht, 1,500 ft. from S line, 500 ft. from W line of farm, in Thomas M. Fowler Sur. No. 27 in extreme south point of county	T.D. 1,650 ft.; S.D.
Liles Adams et al's No. 1 Luders, 150 ft. to S line, 1,420 ft. to E line of James Stanford's No. 155	T.D. 1,100 ft.; standing.

BASTROP COUNTY

E. R. Mart's No. 2 Wm. Bahn, 2,000 ft. from E line, 1,300 ft. from S line of farm in James Sandifer Sur.	Skidding derrick from No. 1 Bahn.
Sun Oil Co.-Humble Oil & Ref. Co.'s No. 1 Powers, 400 ft. to N and E lines of Blk. 197, Bastrop town tracts.	T.D. 2,270 ft.; drlg.
Texas Dev. Co.'s No. 1 C. H. Ray, 300 ft. from W line and 400 ft. from S line of farm, in Thos. Christian Sur.	T.D. 2,635 ft.; drlg.

BELL COUNTY

Bridwell et al's No. 1 Nichols, 150 ft. to W and N lines of farm, N. Roberts Sur.	T.D. 425 ft.
Bridwell et al's No. 1 G. A. White, 550 ft. to E line, 150 ft. to S line of farm, Nancy Roberts Sur., 4 miles SE from Belton	T.D. 537 ft.; drlg.

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Open New Field in Victoria County

Sweet Lake Has Deepest Producer on Gulf Coast. Extension of Miocene Sand at Barbers Hill. Pierce Junction Also Extended

By Neil Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Feb. 1.—Another new field for the Gulf Coast has been opened with the completion Sunday of Bunte and associates' No. 1 Keeran, a rank wildcat in southeastern Victoria County in the lower coastal country. So far the well is rated only as a gasser but it is making a slight spray of oil and it is expected that as soon as the pressure declines the fluid will increase. The well was brought in with an estimated showing of 40,000,000 feet of gas daily with a spray of oil which tests 48 gravity at a temperature of 51 degrees. Production is through a five-eighths-inch choke from a sand at a total depth of 5,191 feet. Forty feet of 4½-inch screen was set. Pressure is at least 2,000 pounds as a 2,000-pound gauge registered its maximum.

This area is approximately 15 miles to the east of the McFaddin district, located in the southwestern part of the county and northern Refugio County, which district has been proved as a gas district of wide extent and of many sands and where within the past two months two oil producers have been completed. The Bunte well is on a 2,500-acre block, which was farmed out to these operators as a part of an original 5,000-acre block held by the Gulf Production Co. Location of the well is in the Martin DeLeon Survey.

Sweet Lake

Pure Oil Co. at the opening of the week was bringing in its No. 5 Yount Lee Oil Co. at Sweet Lake, Cameron Parish. This well, which promises to open a new deep sand in that field and break by 9 feet the deepest production record on the Gulf Coast, has set screen at a total depth of 7,456 feet and as this is written is being washed. No estimate of production can be made at this time but equally as good a well as either No. 9 or No. 10 is expected. The latter two wells, the most recent additions to the field, each of which opened new deep sands, the first at 6,813 feet and the other at 7,387 feet, have proved unusually consistent producers.

This company's No. 14 Mayes, Lost Lake, Chambers County, which is expected to open a new shallow sand at that field, has been standing cemented with completion being delayed until after the bringing in of the Sweet Lake well. This well, as reported in The Oil and Gas Journal last week, is in sand at 1,812-73 feet and showing heavily of oil. A string of 9⅝-inch casing is cemented at 1,800 feet but so far plug has not been drilled. Previous oil production in this field has been from a 2,800-foot horizon overlying the dome. The shallow well is within 650 feet of No. 11, the present most easterly well in the 2,800-foot sand.

The Sweet Lake well takes the record for deep production on the Gulf Coast away from Jennings, Acadia Parish, where three 7,400-foot wells have been completed southeast of the field. The deepest of those was Yount Lee Oil Co.'s No. 7 Housierre-Latrielle, which was brought in December, 1929. Deeper tests have been drilled at Jennings and also at other fields but without finding production.

Although Sweet Lake and Lost Lake are owned and developed by the Pure Oil Co. alone, the finding of the new sands at these fields is of considerable interest in view of proving of additional possibilities for these fields. Development so far at Lost Lake in the 2,800-foot sand has not been entirely satisfactory. While nine producers have been completed out of 13 tests drilled (not including three deep flank sand dry holes) production has been more or less erratic and has failed to hold up. A number of different sands, all deep, have been proved at Sweet Lake so far, the sands apparently being in lenses as nearly every well is in a separate sand although all are in a small group. The discovery well, No. 3 Sweet Lake, completed in October, 1926, was in sand at a total depth of 5,897 feet, then the deepest production on the coast. A total of seven producers has been completed there. Sweet Lake is one of the few nonsalt dome fields on the coast, that is, as yet no salt has been drilled into in any of the tests. Lost Lake, however, is a salt dome, being one of the earlier geophysical discoveries.

Barbers Hill

Developments at Barbers Hill were marked by the completion of Sun Oil Co.'s No. 2 Higgins, which in sand at a total of only 3,648 feet made a 1,600-bbl. producer pinched to a half-inch choke. This is one of the closest in wells which have been drilled on the southeast flank at Barbers Hill in the play which is under way along the east and southeast sides of the dome in development of Miocene sands underlying the salt. It is an offset to Mills Bennett Production Co.'s No. 5 Gulf Fisher, recently completed, and is 125 feet closer in to the center of the dome than that well. By being closer in it is one of the shallowest wells which have been brought in so far. The sand was reached after drilling through a little over 2,050 feet of salt.

While this well on the southeast flank proved an important extension of Miocene sand in that area, the Texas Company, in its No. 2 Lawrence, at the northern end of the play on the east flank, chalked up the first failure in the new development activity. This test was abandoned after testing salt water at 5,313 feet. The well failed to make a commercial producer in the 4,400-foot Miocene sand in that area and was deepened to its present depth in the Oligocene.

Only one new location was made at Barbers Hill during the week, this being for Bashara Oil Co.'s No. 2 Tarbutton, 25 feet west of Texas Gulf Producing Co.'s No. 2 Tarbutton on a narrow strip. This test now is rigged up and ready to drill. Sinclair Oil & Gas Co.'s No. 11 Wilburn, also on the east flank, as this is written, is due for completion in the 4,400-foot sand in which it has set screen at 4,432 feet. This well is a south offset to Mills Bennett Production Co.'s No. 6 Wilburn, which several weeks ago opened an entirely new play by drilling through the 4,400-foot Miocene sand to be completed in the Oligocene at a depth of slightly below 5,000 feet, which is from 150 to 200 feet higher than previous production found in this sand in the circle of wells drilled off the edge of the dome and several hundred feet out from the present activity. The Sinclair well, however, is in the shallower Miocene sand but if production is not satisfactory in this horizon it probably will be deepened to the lower sand.

Pierce Junction

Completion of Humble Oil & Refining Co.'s No. 1 C. G. Hooks on the south flank of the Pierce Junction Dome has proved a 600-foot eastward extension of production there. This well, which was feeling out the line of production, came in flowing 600 bbls. daily through a three-eighths inch choke from sand at 3,883-94 feet and is an important link in filling in the only remaining gap in the circle of production around the dome.

On the northwest of Pierce Junction, Southern Petroleum Corp. late in the week completed its No. 1 Gulf fee, which, with 66 feet of 4½-inch screen in sandy shale at 4,396 feet, came in flowing 450 bbls. of fluid, 50 per cent oil, 130 pounds pressure through a three-eighths inch choke. Water, however, is believed to be coming from a higher sand and efforts now are being made to shut it off. This well formerly had been completed in sand at 3,807 feet and 3,960 feet.

East Hackberry

At East Hackberry, Calcasieu Oil Co.'s No. 26 Watkins reset screen in the sand at 2,983-3,008 feet and was brought in flowing 2,200 bbls. daily, 30 per cent water, but the production dropped rapidly and the well now is dead. This well, located in the new shallow sand pool on top the dome, originally was completed last October making 3,000 bbls. daily, increasing to 4,650 bbls.

Rabb Ridge

The second blowout within a month in the Rabb Ridge Field, Fort Bend County, was experienced the past week by Cullen & West and Gulf Production Co.'s No. 1-B Lockwood & Sharp. This well blew out while drilling at 4,925 feet and at latest report was still running out of control making lots of gas, mud and water. These operators' No. 1-A Lockwood & Sharp blew out late in December while drilling at 4,807 feet. It wrecked the derrick and rig and after blowing out of control for a week finally choked itself off and now is standing with bottom of hole cemented.

Markham

That development of Markham, Matagorda, is to be resumed immediately is indicated with the making of a location by L. P. Smith and associates for a test on the southeast side of the dome. This test will be No. 1 Hudson, 750 feet each way out of the southeast corner of Block 15, Henry Parker Survey. This is 250 feet north and 100 feet west of an old well, Rycade Oil Corp.'s No. 2 Hudson,

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GULF COAST FIELDS AND WILDCATS

Week Ending January 30
All Rotary

BARBERS HILL—CHAMBERS COUNTY

Company, farm and location—	Remarks—
Bashara Oil Co.'s No. 2 Tarbutton, Henry Griffith League, 25 ft. W of Texas Gulf Producing Co.'s No. 2 Tarbutton	Derrick.
R. E. Ferrell's No. 2 Wilburn, Henry Griffith League, 215 ft. W of No. 1 in center of 45-ft. tract	Fishing drill pipe 2,272 ft.
Gulf Prod. Co.'s No. 7 Wilburn, Henry Griffith League, 177 ft. W of No. 6	Drlg. rock 1,054 ft.
McAlbert Oil Co.'s No. 5 Wilburn, Henry Griffith League, 375 ft. of No. 4	Hard sand 1,046 ft.; trying to set 13⅜-in. csg.
Rio Bravo Oil Co.'s No. 2 Fisher (W.O.), W. D. Smith Sur., 50 ft. out of NW cor. of tract	T.D. 5,390 ft.; sidetracked at 3,384 ft. to sand 3,338-48 ft.; tested salt water; deepened to 3,446 ft.; resetting screen.
Sinclair Oil & Gas Co.'s No. 9 Wilburn, Wm. Hodges Sur., 50 ft. N of S line and 550 ft. W of No. 6	Drlg. shale 4,743 ft.
Sinclair Oil & Gas Co.'s No. 10 Wilburn, Wm. Hodges Sur., 50 ft. S line, 100 ft. W of No. 9	Drlg. sandy shale 4,771 ft.
Sinclair Oil & Gas Co.'s No. 11 Wilburn, Wm. Hodges Sur., 125 ft. W of No. 8 and 45 ft. S of N line	Hard sand 4,432 ft.; cmtd. 9-in. csg. 4,379 ft.; drlg. plug.
Sun Oil Co.'s No. 2 Higgins, Wm. Bloodgood Sur., 1,095 ft. W of No. 1 and 50 ft. N of S line	Set 46 ft. screen 3,648 ft.; comp. flowing 1,600 bbls., 1.5 per cent b.s., ½-in. choke.
Sun Oil Co.'s No. 13 J. Wilburn, Wm. Hodges Sur., 200 ft. W of No. 12	Location.
The Texas Company's No. 2 Lawrence, Henry Griffith League, 240 ft. from E line and 412 ft. from N and S lines of strip	Tested salt water 5,313 ft.; abnd.
The Texas Company's No. 8 Wilburn, Henry Griffith League, 25 ft. W of No. 5 and 50 ft. N of S line of tract	Drlg. salt 1,735 ft.; top of salt 1,408 ft.
Texas Gulf Producing Co.'s No. 1 Scott-Fitzgerald, 125 ft. from S line and 71 ft. from E line of Strip No. 1, Henry Griffith League	Rig.
Texas Gulf Producing Co.'s No. 9-B Kirby, Henry Griffith League, 50 ft. out of SW cor. of J. M. Fitzgerald 50-acre tract and 110 ft. S of N line of Kirby tract	Cmtd. 16-in. csg. 848 ft.
Texas Gulf Producing Co.'s No. 9-H Kirby, Henry Griffith League, 87 ft. W and 130 ft. N of No. 8-H	Drlg. rock 1,336 ft.

HUMBLE—HARRIS COUNTY

J. E. Burt et al's No. 2 C. O. &G.-The Texas Co. fee, J. B. Stevenson Sur., 450 ft. N of No. 1	Location.
Sun Oil Co.'s No. 27 Bender, W. B. Adams Sur., 250 ft. W of No. 26 in line with No. 25	Drlg. shale 1,955 ft.
The Texas Company's No. 37 Koehler, J. B. Stevenson Sur., 717 ft. E and 603 ft. S of NW cor. of SW fee tract	Set 94¾ ft. of 4¾-in. screen 4,769 ft.; swabbing.
E. M. Wilson's No. 7 W. & P. Gulf fee	Rigging up to pump 1,485 ft.

FORT NECHES—ORANGE COUNTY

The Texas Company's No. 1 Polk-Kuhn-Glass, 250 ft. E and 1,545 ft. S of SW cor. Marshall Beaucham Sur., in the T. J. Notgrass Sur.	Drlg. sticky shale 5,148 ft.
The Texas Company's No. 3 Polk, T. J. Notgrass Sur., 500 ft. NE of No. 2 Polk	Derrick.
The Texas Company's No. 3 Kuhn, 587 ft. S and 150 ft. W of NE cor. of the Mary E. Hall Sur. No. 2	Rig.

HULL—LIBERTY COUNTY

Eclipse Oil Co.'s No. 1 Barrow, Jesse DeVore Sur., 50 ft. from N line and 31 ft. from E and W lines 37-acre tract	Rigging up.
Republic Prod. Co.'s No. 89-A Dolbear, Jesse DeVore Sur., 25 ft. W of No. 89	Drlg. sandy shale 3,305 ft.

PIERCE JUNCTION—HARRIS COUNTY

Isaacs & Carwile's No. 1 Settegast (W.O.)	T.D. 3,393 ft.; pumping salt water.
Navarro Oil Co.-Texas Exp. Co.'s No. 16 Dooley (W.O.), J. Hamilton Sur., 50 ft. from W line and 487 ft. from S line tract	Drlg. salt and lime 5,330 ft.

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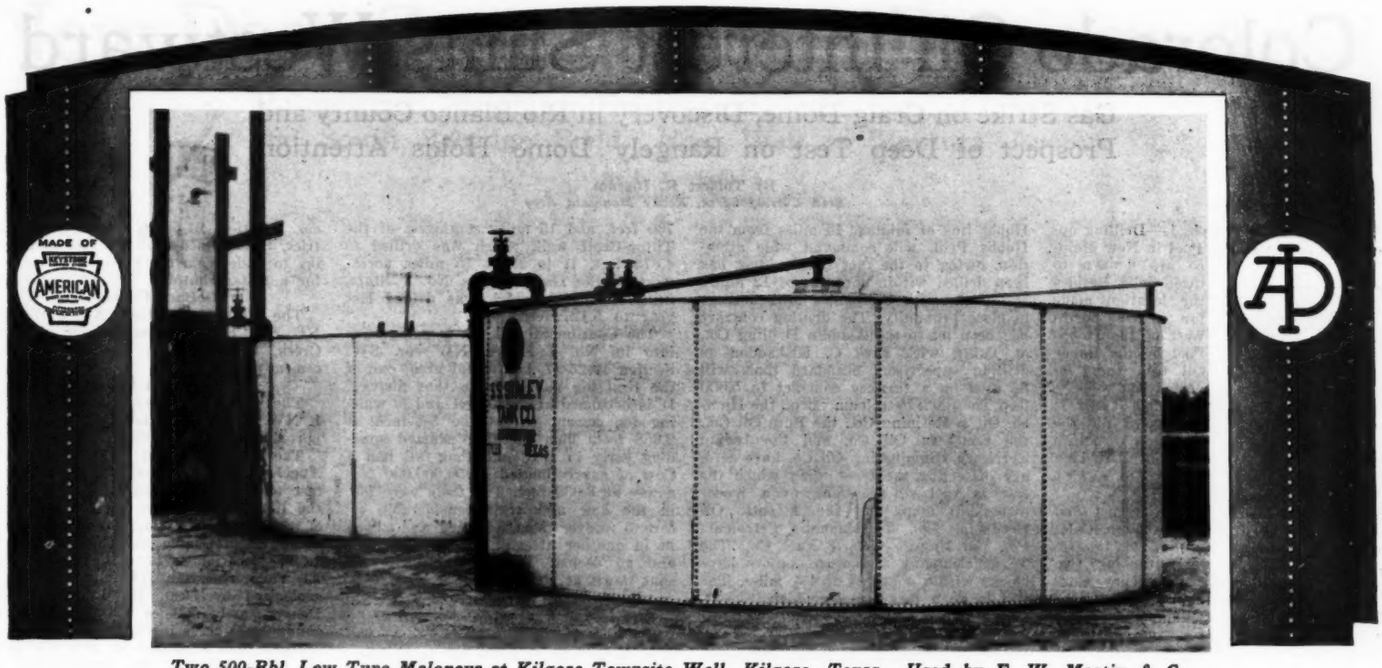

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Colorado Oil Interest Shifts Westward

Gas Strike on Craig Dome, Discovery in Rio Blanco County and Prospect of Deep Test on Rangely Dome Holds Attention

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Feb. 1.—Drilling operations in the Hobbs Pool in New Mexico are down to three wells. Besides the location made for a test northwest of the Hobbs Pool by the Baker Oil Co., Inc., reported last week, a 6,000-foot test is announced for the El Vado structure in Rio Arriba County, to start June 1.

Western and northwestern Colorado are receiving attention as the result of two gas discoveries the last two weeks. The Magnolia Petroleum Co.'s No. 1 Maddock, on the Piceance Creek Dome in Rio Blanco County, gauged 13,000,000 feet of gas at a total depth of 2,930 feet, accompanied by a show of oil. The Ohio Oil Co. is preparing to test a stray gas sand in its Craig Dome operation in Moffat County. The Prairie Oil & Gas Co.'s No. 1 O'Toole, in Weld County, 10 miles northwest of the Greasewood Pool, is being abandoned.

HERE'S NEW WAY OF GETTING MORE MILK

An agricultural item was injected into the oil news from the Rocky Mountain area this week by the Ohio Oil Co.'s No. 1 Bogenschultz, C SE SE, Section 9-6n-91, Craig Dome, Moffat County, which is bottomed in a gas sand at 1,754 feet and reaming to run the 12½-inch to be set on top of the sand and shut off water from four sands above. The well is flowing around 20,000 bbls. per day from the upper sands and, according to the Craig Empire, the water is warm and highly acceptable to cattle ranging in the neighborhood. A herd of dairy cattle, the newspaper states, has increased materially its milk production since drinking thirstily from the stream spouting from the well.

In Wyoming, the Argo Oil Co. acquired the Salt Creek and Pilot Butte holdings of the Glenrock Oil Co. at a foreclosure sale. One well in Johnson County was abandoned.

The co-operative crude oil marketing agency established by independent producers in the Kevin-Sunburst Field in Montana a year ago, marketed 400,000 bbls. during the year. Montana had no completions and no new locations.

Rig has been erected for a test on the Chalk Creek structure in Utah.

NEW MEXICO

Lea County

All three of the drilling operations in the Hobbs Pool are on the southeastern side, to which area drilling has been confined for several months. The Continental Oil Co.'s No. 6-B State, C SE SW, Section 33-18-38, cemented the 9⅝-inch at 2,754 feet and is waiting. The Midwest Refining Co.'s No. 8 Byers, C NW NW, Section 3-19-38, is drilling at 700 feet in the red beds. The 16-inch was cemented at 203 feet. The same company's No. 11 State, C NE NW, Section 4-19-38, is drilling at 3,688 feet in anhydrite and lime shells.

The Baker Oil Co.'s location for a test in the SW cor. NW, Section 16-13-33, on the northwest extension of the Hobbs line of folding, 45 miles from the Hobbs Pool, will command wide attention, owing to the fact that no test has been drilled within a radius of 12 miles, and that major companies have acreage in close proximity. The drilling contract has been let to the Aladdin Drilling Co., of Tulsa, with Fred C. Kiskaddon as drilling supervisor. Standard tools will be used on a turnkey contract to 5,000 feet. The Shell Petroleum Corp., the Humble Oil & Refining Co., the Pure Oil Co., the Southern Oil Co. and the Indian Territory Illuminating Oil Co. have acreage offsetting the tract upon which the test is spotted, according to a recent ownership map, and the Atlantic Oil Producing Co., the Magnolia Petroleum Co., the Empire Gas & Fuel Co., The Texas Company and other majors have blocks within a radius of 4½ miles. The test is on a magnetometer high.

The Baker Oil Co. recently completed organization in New Mexico with R. M. Baker, president; J. A. Baker, treasurer, and E. O. Blais, secretary. W. H. Patten, mayor of Lovington, N. Mex., is counsel for the company, and its headquarters are in Roswell, N. Mex. The company has 1,200 acres in southeastern New Mexico.

The new location is approximately 10 miles east of the Arena well drilled several years ago by Roswell men, which had several good showings of oil and a heavy gas show, to a total depth of 3,760 feet, and 15 miles southwest of the Tilton-Croft well, which was drilled to 4,873 feet. It is about 15 miles northwest of the Galt-Brown's No. 1 State, Section 9-15-35, which was drilled last year to 5,127 feet.

The Continental Oil Co. is going back into its No. 1 Sholes, NW cor. SW, Section 19-25-37, in the Jal area, one of the first big gas wells in that district. It is bottomed at 3,030 feet and is waiting for cement to set the 5⅜-inch at 2,668 feet. This operation started spudding early in 1928 and that fall had a flow of gas estimated at 50,000,000 feet a day at 3,030 feet. The tools were lost in the hole and after considerable effort to recover them, a rotary was moved in in another attempt to clear the hole and go deeper. Finally, the well was shut down at that depth.

Eddy County

Flynn, Welch & Yates' No. 61 State, SE NE NW, Section 32-18-28, Artesia area, is drilling at 1,320 feet in gypsum, and its No. 1 State, NE cor. SE, Section 26-20-27, South Artesia, is waiting for rig.

Leonard & Levers' No. 6 State, C NW, Section 28-17-29, Maljamar area, is drilling at 2,210 feet in gray lime and is expected to be an early completion as a gas well.

Guadalupe County

The New Mexico Producing & Refining Co., Ltd.'s No. 1 McMullen, SW cor., Section 24-5n-16, Mesa Leon district, is bottomed at 3,875 feet and trying to underream the 8¼-inch to bottom for a water shutoff.

DeBaca County

The Matador Oil Co.'s No. 1 Woods, NE SW SW, Section 6-4n-20, Salada Creek, is shut down at 3,438 feet to cement cave.

Rio Arriba County

The Governardo Dome Oil Co.'s No. 1, NW NE NE, Section 15-29-7w, is reported drilling at 2,000 feet.

The Pan States Oil Co., Ltd., of Los Angeles, has announced plans to drill a test to the Pennsylvanian formation on the El Vado structure, on the east side of the San Juan Basin, and 20 miles southwest of Chama, starting about June 1. The location is near the site of the El Vado reservoir. The structure was geologized by Dean E. Winchester, of Denver, and includes two domes with about 9,000 acres inside the closure. One of these has a closure of 500 feet and the other 600 feet. The horizons to be tested are the Todilto at 600-900 feet; the Wingate at 800-1,050 feet; the Magdalena at 3,300-3,600 feet; and the Pennsylvanian at 5,300-5,700 feet.

San Juan County

The Continental Oil Co.'s No. 24, SW NW SW, Section 1-29-19, Rattlesnake Dome, after changing back to rotary, is shut down at 6,363 feet for repairs. It is about 500 feet off the objective in the Pennsylvanian. Same company's No. 17, C NE, Section 2-29-19, the discovery well in the Pennsylvanian, which was deepened from 6,790 feet after being on production for two years, is bottomed at 6,985 feet with approximately 4,250 feet of water and 700 feet of basic sediment standing in the hole. It has shown no change since deepening.

COLORADO

Rio Blanco County

Western and northwestern Colorado, which yielded first place in the news to eastern Colorado during the last year, are again in the spotlight as a result of the gas strike on the Craig or Breeze Dome in Moffat County, last week, another discovery on the Piceance Creek Dome in Rio Blanco County this week, and the prospect of a deep test on the Rangely Dome reaching the Sundance horizon in the next few days.

This latest discovery was in the Magnolia Petroleum Co.'s No. 1 Maddock, C NW SE, Section 9-2s-96, on the Piceance Creek structure, 35 miles to the southeast of the Rangely Dome, and the same distance to the southwest of the Iles and Moffat producing oil fields in Moffat County. No. 1 Maddock topped a sand in the Green River formation of Tertiary age at 2,917 feet and was drilled to 2,936 feet, at which depth it gauged 13,000,000 feet of very wet gas in 24 hours. It had a good show of oil at 2,926-30 feet. After installing a valve, the well was shut in for 60 days on account of the cold weather, after which the 8¼-inch casing will be run and the hole drilled deeper to test four sands known to lie below the one in which the gas was encountered.

No. 1 Maddock is located about half a mile to the east of No. 1-A Fordham, NW cor. SW, Section 9, which was started in 1929 by the White Eagle Oil & Refining Co. and completed by the Magnolia company following the consolidation of the two companies. The last named well was drilled to a total depth of 5,130 feet and plugged back to 2,985 feet and completed as a gas well which gauged 1,876,000 feet with a pressure of 715 pounds. This well, it is now conceded, did not, however, exhaust all pos-

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SASKATCHEWAN TEST AROUSES INTEREST AMONG OPERATORS

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Jan. 30.—In Saskatchewan, a town lot test being deepened Sheldon-Burden Co. under contract for the city of Moose Jaw, is reported to have got a small show of gas in the Devonian limestone, after encountering a heavy flow of warm salt water. Location is in Section 32-16-26w2, and now bottoms at 3,450 feet. The gas strike in the Devonian, though commercially unimportant, has revived interest in Saskatchewan drilling, and as a result it is expected that within the next few months several old tests will resume and perhaps a number of new tests will be started at various points in the province.

The Moose Jaw municipal well was first drilled in 1913-14 when the municipality set aside a fund of $30,000 to test the local possibilities of gas or oil. At 3,300 feet the test encountered a flow of warm salt water, and as the fund had been exhausted no further drilling was done. In 1930 when the Moose Jaw municipal electric plant was sold to the National Light & Power Co., provision was made for setting up an industrialization fund of $150,000 to be administered jointly by the company and the city for the purpose of encouraging industries; and part of this fund was to be used to recondition the well in order to use the mineral water for a proposed civic natatorium. In 1931 contract was let to the Sheldon-Burden Co. for deepening the well.

In the original test a small gas flow was struck at around 3,000 feet which was still flowing in 1931. On resuming it was found there had been considerable caving from the lower drilling with open hole. This was cleared away, and near the old bottom some iron had to be milled out. Some new hole was made in the Devonian lime and a strong flow of warm salt water was met. Below this horizon the drill encountered some gas, though not in commercial quantities. Following the original intention, the well is being plugged back to set screen and utilize the highly saline mineral water for municipal baths. The test apparently has not been carried to the lower Devonian, where the chances of commercial production are best. It is possible that private interests in Moose Jaw will undertake a test of this horizon.

Saskatchewan Prospects

Unlike Alberta, the province of Saskatchewan, which is immediately east, has had comparatively little drilling. A number of isolated deep tests have been put down at various times, but so far no commercial production of oil or gas has been developed, though in several tests some promising shows have been reported. With the Devonian lime around 3,300 feet, this horizon is much nearer the surface in Saskatchewan than it is in Turner Valley or in most of the southern Alberta border areas. The series as given by the Geological Survey of Canada is as follows:

Pleistocene—Glacial

Cretaceous—Montana series showing Pierre (Bearpaw) shales; Colorado shales and Dakota sands and shales.

The glacial drift varies from 30 to 200 feet. The Pierre shale is reported 1,500 feet thick in some places. It has

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New Deep Zone in North Belridge Area

If Confirmed, May Mean Existence of Similar Sand at Lost Hills and South Belridge Field. New Well in Ventura Avenue

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Jan. 30.—The Belridge Oil Co. is believed to have picked up a new deep zone in the North Belridge Field of Kern County early this week, although this will not be definitely determined until completion of a conclusive production test. The existence of this new deep zone became evident this week when the company's No. 64 in Section 27-27-20, staged a premature gas blowout and blew for a period of approximately one hour. The Belridge Oil Co. has consistently refused to release any data on the depth or status of this deep test and, while the bottom of the hole is not definitely known, it is believed to be at approximately 7,500 feet. This well got beyond control when circulation was lost and was blowing at the rate of approximately 500,000 feet of gas per day accompanied by a small quantity of light oil.

The possible existence of a new deep zone in the North Belridge Field is of particular significance because it may indicate the existence of a similar condition at Lost Hills and in the South Belridge Field. Present production of the North Belridge Field is coming from the Temblor formation encountered at approximately the 5,000-foot level. If the Belridge Oil Co. definitely proves a new deep zone in the North Belridge Field it is likely the company will shut in the discovery well immediately subsequent to completion. By doing this, it will not be necessary for other operators to develop the new zone until conditions improve. The General Petroleum's No. 1 Berry, in the South Belridge Field of Kern County, was still rotating in brown shale as the 7,900-foot level was reached and consequently there has been no change in the status of this well. The brown shale in this field is substantially thicker than anticipated and its depth can be determined only under actual drilling conditions. General Petroleum has not shown any inclination to suspend work in spite of the fact it may require several thousand feet more before the top of the Temblor is reached. Drilling operations were suspended in the Lost Hills Field of Kern County several months ago when the attempt of operators to develop Temblor production in this field was unsuccessful.

Ventura Avenue

The Associated Oil Co. added a new well to its list of producers in the Ventura Avenue Field during the past week by recompleting No. 18-A on the Ventura Land & Water Co.'s property flowing 880 bbls. of 28.8 gravity oil and 1,624,000 feet of gas per day. This well, which was redrilled and deepened to 7,000 feet, was brought in barefoot as the hole is open from 6,379 feet to the bottom. The Associated is running four strings of tools in the Ventura Avenue Field but is building rigs for two new projects, No. 131 Lloyd and No. 20 V. L. & W. The Bolsa Chica Oil Co. will probably complete No. 6 Hartman in this field during the next several weeks as this project came in flowing during a shutoff test a few days ago. The Superior Oil Co., which is doing the actual drilling of this well for the Bolsa Chica, had run in a 6⅝-inch blank liner and cemented off the productive zone before drilling ahead. While going in the hole to test the shutoff at the top of the liner, the well started to flow at the rate of 500 bbls. per day between the 9-inch and 6⅝-inch casing. The flow was subsequently killed and the top of the liner recemented. Drilling will be resumed within a few days at 8,171 feet and the hole completed if possible in the deep 57 zone discovered by the Associated Oil Co. several months ago. The Shell is drilling only one well in the Ventura Avenue Field and it is the present intention to limit all further drilling in this area as far as possible.

Santa Barbara Mesa

The Cliff Petroleum Corp. completed No. 1 Meigs, a new well in the Santa Barbara Mesa Field, early in the week and this new producer is pumping 146 bbls. of 19.4 gravity oil cutting 2 per cent. Drilling operations have been restricted in the Santa Barbara Mesa Field due to the inability of producers to dispose of current production. Refiners are not especially hot for this heavy oil and for this reason production will be rather limited during the present year. There is not a single well drilling in the Elwood Field of Santa Barbara County and no new work is anticipated as operators in this area recently agreed to another 30-day drilling moratorium. The decision to refrain from drilling during the next month specifically covers the deep Sespe zone discovered by the Barnsdall and Rio Grande several months ago and by doing so precludes any additional development as the upper, or Vaqueros horizon will not sustain very many more wells.

The General Petroleum has reached a depth of 7,195 feet in its No. 2 on tideland drilling permit No. 55 in the Rincon Field of Ventura County but has not yet encountered anything resembling substantial production since passing the 4,800-foot level. This well is at the end of a 1,700-foot pier and is approximately 1,600 feet out beyond the tideline. The General Petroleum is still working with No. 3 More in the Goleta gas field, Santa Barbara County, but has not yet succeeded in completing it as a gas well. This project was carried to 6,912 feet in search of oil but has been plugged back to 4,988 feet preparatory to perforating the casing in the gas horizon and recompleting it as a commercial gas producer. The General Petroleum has two wells on commercial gas production in this field and recently spudded in No. 1 Hollister, a well to be drilled jointly with the Shell Oil Co. in Section 3-4-29.

The Texas Company has reached a depth of 465 feet in its second structure survey hole in the Carpinteria district of Santa Barbara County and present plans contemplate the drilling of at least two more core holes before any decision is reached whether the area justifies the drilling of a deep conclusive test. The Barnsdall has just spudded in No. 1 Careaga, a wildcat located northwest of No. 1 Tognazzini on a new structure in the Los Alamos section of Santa Barbara County. The Barnsdall and Rio Grande have started constructing some additional storage on the Tognazzini property to make a conclusive production test on the discovery well in this district. The first completion on the Gato Ridge structure showed a potential production of approximately 1,000 bbls. per day but the Barnsdall and Rio Grande are desirous of producing the well for several days to get a better idea of the productivity of the Tognazzini and adjacent leases. The Midwest Oil Co. has resumed drilling on its Los Alamos wildcat and this hole is being cleaned out preparatory to deeper drilling. The Western Gulf has not been successful in recovering the fish which has delayed drilling operations on No. 1 Bradley, a wildcat in the Santa Maria district of Santa Barbara County, and preparations are being made to set a whipstock to sidetrack the fish.

Fruitvale

The Sea Hawk Petroleum Co. complet- No. 1-B Fruitvale, a new well in the Fruitvale Field of Kern County, early in the past week, and this project was brought in under a natural flow doing 555 bbls. of 20.8 gravity oil cutting 6 per cent. This well, which is flowing under a casing pressure of 800 pounds, was bottomed at 3,812 feet and finished with a 6⅝-inch liner carrying 185 feet of perforated. Several new wells have been started in the Fruitvale Field during the past few weeks and it appears probable this area will be rather active during the next several months. The Plymouth Oil Co. is rigging up its No. 1 Fruitvale to pump and this well, together with the Bluerock Oil Co.'s No. 1 Fruitvale, should be tanking oil in the near future. The Sea Hawk Petroleum, following the completion of its No. 1-B this week, spudded in No. 2-A in Section 23-29-27 and good footage is being made. The Bankline Oil Co. and the Clark Brothers Oil Co. started rig construction for two new wells a few days ago and both projects should begin making hole in the near future. The Mohawk Petroleum Co. spudded in No. 1 Fishback a few days ago and is already down below the 1,000-foot level.

Ramsey Project

The Ramsey Petroleum Co., which has been endeavoring for the past year or so to secure a permit to drill a wildcat in the Riverside Drive area of Los Angeles city, formally withdrew its request due to the concerted objections which had been raised by property holders and civic organizations. The matter came before the Los Angeles city council Thursday, January 28, but was not formally voted upon. The deplorable condition of the Playa Del Rey Field of Los Angeles Basin was responsible to a large extent for the unfavorable attitude assuumed with respect to the Ramsey's petition in the Riverside Drive Elysian Park area. There is a well defined structure in the Riverside Drive area, and while its existence has been known for several years, no one has made any attempt to develop it previous to the attempt of the Ramsey Petroleum.

Playa Del Rey

Two wells were put on production in the Playa Del Rey Field of Los Angeles Basin during the past week. These were the Domestic & Foreign Petroleum Co.'s No. 3 Venice and the Herndon Petroleum Co.'s No. 4. The former, bottomed at 5,734 feet and finished with a 3-inch liner carrying 310 feet of perforated, was brought in doing 282 bbls. of clean 22.3 gravity oil per day. The Herndon Petroleum Co. failed to secure a natural flow in its No. 4 Venice and was obliged to rig up compressor. Under this artificial stimulation the well was brought in flowing 140 bbls. of 22.1 gravity oil cutting 20 per cent. This new well was bottomed at 6,368 feet with a 6⅝-inch water string landed and cemented at 6,095 feet. The West Coast Petroleum Combination failed to secure commercial production in the deep Recreation zone at 6,165 feet and has consequently plugged back its No. 5 Venice to 4,300 feet. The 6⅝-inch has been perforated between 3,700 feet and 4,300 feet preparatory to putting it on a pumping test.

Long Beach

Three wells were put on production in the Long Beach Field during the past week but none was of any special consequence. The R. R. Bush Oil Co.'s No. 1 Guichard, bottomed at 4,950 feet and completed with a 4¾-inch liner carrying 235 feet of perforated, was brought in pumping 55 bbls. of 26.2 gravity oil cutting 50 per cent. The Drillers Petroleum Co. put No. 1 Bernstein on a production test at 4,691 feet but it was good for only 112 bbls. of 22.5 gravity oil cutting 10 per cent. The West American Oil Co.'s No. 1 H. & S. was a little better well as it was brought in pumping 146 bbls. of 24.9 gravity oil cutting 8 per cent from a depth of 4,123 feet. There is very little development work under way in the Long Beach Field and it appears probable this field will be inactive from a drilling standpoint for several months. The overdrilled condition of this field indicates only a minimum amount of work is possible.

Dominguez

The Union Oil Co. recompleted No. 23 Callender in the Dominguez Field of Los Angeles Basin flowing 300 bbls. of 29.2 gravity oil per day but may be obliged to undertake corrective work as the output is cutting approximately 20 per cent. The Union is starting two new wells in the Dominguez Field, one on the Hellman lease and one on the Callender property. The Shell is building rig for No. 42 Reyes and is rigging up rotary equipment in No. 101 Reyes preparatory to a resumption of drilling at 4,150 feet. The Associated is nearing the 4,000-foot level in No. 11 DeFrancis, a new well, but this project will not be ready for completion for another 30 days. Deep zone exploration has become a thing of the past so far as the Huntington Beach

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Diesel and gas oil	.....	.....	.....	.....	.....	333,154
Gasoline	105,701	15,100	.....	.....	509,990	1,177,199
Coastwise—						
Crude oil	285,634	40,805	114,940	16,420	1,017,988	1,250,837
Fuel oil	427,392	61,056	230,509	32,930	1,100,584	1,594,502
Diesel and gas oil	59,576	8,511	71,923	10,275	190,031	197,545
Gasoline	278,110	39,730	190,065	27,152	986,131	940,715
Kerosene	.....	.....	6,038	863	8,325	44,479
Exports—						
Crude oil	160,561	22,937	153,816	21,974	659,275	707,585
Fuel oil	48,555	6,936	386,619	55,231	765,348	1,091,895
Diesel and gas oil	.....	.....	.....	.....	119,845	306,024
Gasoline	193,481	27,640	244,574	34,939	567,644	1,214,349
Kerosene	.....	.....	19,502	2,786	19,502	3,022

TANKER SHIPMENTS FROM SAN FRANCISCO TO ATLANTIC AND GULF COAST PORTS

Gasoline	.....	.....	.....	.....	147,549	.....
Lubricants	.....	.....	.....	.....	7,560	.....
Coastwise—						
Fuel oil	180,952	25,850	62,591	8,942	503,186	312,888
Diesel and gas oil	.....	.....	40,791	5,827	40,791	.....
Gasoline	.....	.....	.....	.....	258,615	233,174
Kerosene	.....	.....	.....	.....	14,746	16,877
Exports—						
Crude oil	95,650	13,664	.....	.....	103,409	.....
Fuel oil	.....	.....	.....	.....	.....	55,960
Diesel and gas oil	65,748	9,392	31,760	4,537	178,629	.....
Gasoline	87,645	12,521	216,790	30,970	377,884	96,750
Kerosene	.....	.....	.....	.....	.....	94,961

Field is concerned and operators are now content to produce from present horizons. No new work is under way and there are only two or three reconditioning jobs occupying the attention of producers.

Inglewood

The E. K. Allison Syndicate is making preparations to run a 4¾-inch combination liner in No. 1 Moynier, an outpost in the Inglewood Field of Los Angeles Basin, and expects to be in a position to make another production test during the next 10 days. This well, which was bottomed in an oil sand of undetermined potentiality, is 6,103 feet deep and will definitely indicate the existence of a new zone below these found up to the present. No. 1 Sentous of the Baldwin Hills Syndicate is rotating in a hard brown shale at 4,000 feet and while this well failed to pick up either of the two zones known to exist in this field it may encounter another horizon with the addition of more hole. The Standard should complete No. 68 on Los Angeles Investment Lease No. 1 in this field during the next 10 days. A new well may also be completed in the Lawndale Field within the next 15 days as J. O. Smith's No. 9 Peck is standing cemented at 5,929 feet with approximately 120 feet of fair oil sand logged up to the conclusion of drilling operations.

Kettleman Hills

The North American Oil Consolidated is still being delayed with mechanical trouble in No. 1 Blauvelt, a deep test in the North Dome at 9,500 feet. Progress in this well has been held up for several weeks and the outlook is not any too promising. The North American's other drilling project in the North Dome of Kettleman Hills is rotating at 8,595 feet. Another well is scheduled to be drilled in the Huffman section of the North Dome in the near future as the Superior Oil Co. has announced its intention of starting No. 4 Huffman as an offset to the Kettleman North Dome Association's No. 58-20-J, which in turn is an offset to the Union's No. 2 Amerada King. A check of development work under way indicates the probability that no further completions will be chalked up in the Kettleman Hills Field until some time in March, as most of the potential producers now under way will require the drilling of another 1,000 feet of hole previous to completion. The Petroleum Securities is still held up with mechanical trouble in No. 1 Burbank, its exploratory well in the Middle Dome of Kettleman Hills, and it is extremely doubtful whether this hole can be put in perfect mechanical condition and the well finished as a commercial producer. The Standard has just passed the 7,100-foot level in No. 6-29 V, an offset to No. 1 Burbank of the Petroleum Securities in the Middle Dome, but with approximately 2,000 feet of hole reaming to be drilled before completion, it will probably be another two or three months before the company is in a position to make a bid for production.

Round Mountain

The Chanslor-Canfield Midway Oil Co. concluded drilling operations on its No. 4 in Section 6-28-29, in the Round Mountain Field of Kern County at 1,700 feet but did not conclude a production test. Immediately upon the completion of this well the company spudded in No. 5 on the same property and has already made 1,100 feet of hole. The Modoc Petroleum Corp. is making preparations to start a new well in the upper Poso Creek district in Section 28-26-28, and will probably begin making hole within a day or so. A. S. Mayes is also making preparations to drill a new well in this area and his No. 2 in Section 36-27-28 should be spudded shortly. The Graham & Loftus Oil Co. has not yet found anything resembling either oil or gas production in No. 1 Carmel, a wildcat in the Buttonwillow section of Kern County, notwithstanding the bit has already passed the 5,775-foot level. The General Petroleum did not have much luck in recompleting No. 1 Morris in the Buttonwillow gas field as the production test concluded early in the week was in no way comparable with the initial production secured upon completion last year. The Fullerton Oil Co. has reached a depth of 2,775 feet in its second structure survey hole in the Semitropic region of Kern County but has apparently not yet found a definite marker picked up in the first hole. In the Wheeler Ridge Field the Barnsdall Oil Co. is drilling in No. 1 Tejon at 2,550 feet. This well is not within the proven limits of the Wheeler Ridge Field but is in this immediate vicinity. The Union Oil Co. has reached a depth of 3,800 feet in its Tracy wildcat in San Joaquin County but has not yet encountered any definite indications of the existence of production on this structure.

NEW LINE OF BUSINESS

Frank De Luce, well known in the pipe industry, is developing a line of business somewhat unique in oil industry practice. He is acting as broker for the different oil producing, refining and pipe line companies in the disposal of surplus material and equipment. The companies list with Mr. De Luce equipment they no longer need and he finds buyers. He has opened offices in the Thompson Building, Tulsa.

COLON PRODUCTION

Production of Colon Oil Corp.'s subsidiary in Venezuela for the week ended January 22, was 126,093 bbls.

COMPLETIONS IN MICHIGAN AREA DELAYED BY DEPTH OF WELLS

By George A. Whitney

MOUNT PLEASANT, Mich., Feb. 1.—Owing to the depth few wells are being completed in the Central Michigan Field and only one well was reported completed during the week. This was a test by the Theodore Oil Co. in the southwest corner of the S. N. Robinson farm, SW SW NW, Section 26, Lee Township, Midland County, approximately 5 miles east of the well on the Hewitt farm, which hit a vein of water at about 100 feet in the Dundee formation at a total depth of 3,668 feet. There are several other tests in various parts of the field which may or may not extend the producing areas of the field.

The Talbot Oil Co.'s No. 3 on the Adams farm, SW SW, Section 10, Greendale Township, Midland County, instead of an initial production of 1,000 bbls. showed only 850 bbls. the first 24 hours. No. 3 is located north of No. 2 on the same farm, and a slight extension to the north. No. 3 Adams makes 17 large producers for the East Pool.

The test being made by the Deerfield-Nottawa Oil & Gas Co., on the Smith-Tillman, SE NE, Section 35, Nottawa Township, Isabella County, is due for completion. This wildcat is being watched with much interest, being about midway between the Vernon Township Pool and the Broomfield gas pool. The contract work is being done by J. C. Arthurs of Cleveland, Ohio. Another test getting close to a depth for production is the Pure Oil Co.'s No. 1 Frank Howland, SW SW SW, Section 23, Porter Township, Midland County, while another is Wells & Miller's No. 1 Martha Thom, S half SE, Section 9, Lee Township, same county.

The 8-mile 2-inch line between Mount Pleasant and North Bradley is reported completed. The owners plan to handle from six to eight tank cars of oil per day for which contracts have been made. North Bradley is on the Pere Marquette Railroad north of the new East Field, in Greendale Township, Midland County.

L. D. Mehrtin's No. 1 Baumann, Mecosta County, Wheatling Township, NE SE SW, Section 21-14n-7w, was drilled into water Thursday and is being abandoned as a dry hole. The test was put down to a total depth of 3,895 feet before water was encountered. Drilling was completed at 3,908 feet. The top of the Dundee sand was struck at 3,820 feet.

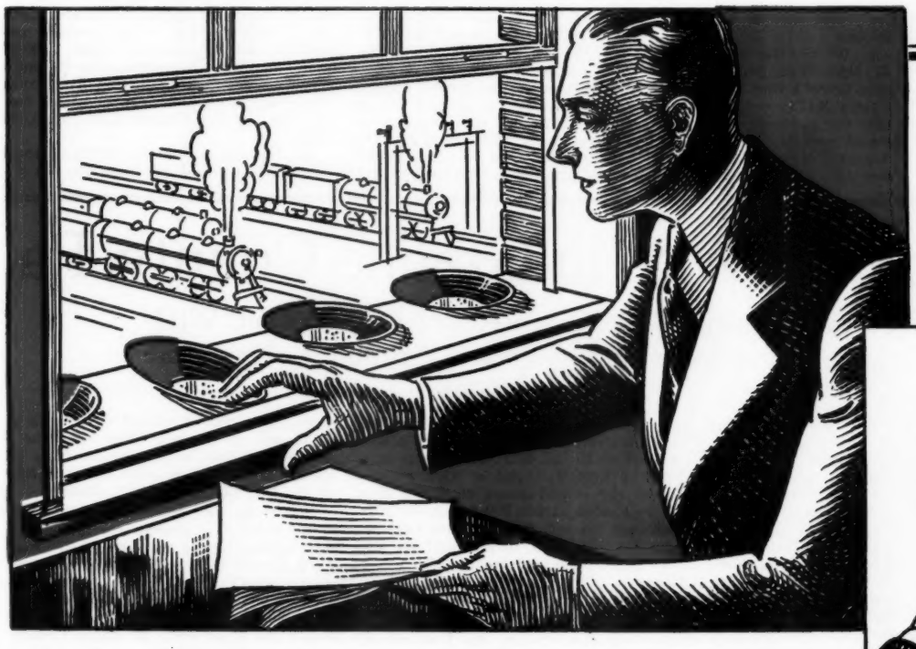
IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status:
Hines Pet., No. 1 Ocean Park, Los Angeles Co.	9- 2-15	7,414	cleaning out
Taylor Oil Co., No. 1 Culver, Los Angeles Co.	12- 2-15	6,238	suspended
Westwood Oil Co., No. 2 Hermosa, Los Angeles Co.	6- 4-14	2,151	suspended
Staple Oil Co., No. 1 Manhattan, Los Angeles Co.	24- 3-15	2,700	suspended
Lawndale Pioneers, Inc., No. 1 Peck, Los Angeles Co.	20- 3-14	5,928	cemented
Mohawk Pet., No. 1 El Nido, Los Angeles Co.	29- 3-14	4,740	sd. sh. drilling
Ranger Pet. Co., No. 1 Watson, Los Angeles Co.	28- 4-13	3,785	testing
Avalon Park Dev. Co., No. 1 Watson, Los Angeles Co.	17- 3-13	rig	suspended
Pedro Pet. Corp., No. 1 San Pedro, Los Angeles Co.	14- 5-14	rig	suspended
Brubaker, W. O., No. 1 Van Nuys, Los Angeles Co.	11- 2-15	2,700	suspended
Rucker & Croul, No. 2 Puente, Los Angeles Co.	27- 2-10	2,200	suspended
El Dorado Oil Co., No. 1 Puente, Los Angeles Co.	30- 2- 9	2,250	suspended
Cudahy Oil Co., No. 1 Bell, Los Angeles Co.	30- 2-12	1,370	suspended
Jones, W. L., No. 1 Bell, Los Angeles Co.	31- 2-12	280	suspended
Weist Oil Co., No. 1 Montebello, Los Angeles Co.	34- 1-11	4,902	suspended
Blinn & Gray, No. 1 Montebello, Los Angeles Co.	6- 2-11	5,060	recemented
Wardell & Menichini, No. 1 Montebello, Los Angeles Co.	7- 2-11	rig	rigged up
Yellowstone Oil Co., No. 1 Alhambra, Los Angeles Co.	24- 1-13	3,915	suspended
Yellowstone Oil Co., No. 2 Alhambra, Los Angeles Co.	19- 1-12	2,015	suspended
Davidson Oil Co., No. 1 Monterey Park, Los Angeles Co.	32- 1-12	....	location
Rucker, L. W., No. 1 Calabasas, Los Angeles Co.	26- 1-17	1,004	cleaning out
Caballero Estates, No. 1 Calabasas, Los Angeles Co.	23- 1-16	1,460	suspended
Simi Oil Co., No. 1 Calabasas, Los Angeles Co.	18- 1-17	4,960	abandoned
Simi Oil Co., No. 2 Calabasas, Los Angeles Co.	18- 1-17	265	abandoned
Marble, Willard, No. 1 Chatsworth, Los Angeles Co.	6- 2-16	1,395	suspended
Ajax Pet., No. 1 Newport, Orange Co.	21- 6-10	6,758	gr. sd. drilling
Beck, Alfred, No. 1 Corona, Riverside Co.	8- 4- 6	1,110	suspended
Spindletop Oil Co., No. 1 Salton Sea, Riverside Co.	25- 7-10	3,533	sd. sh. drilling
Duncan, N. L., No. 1 Sagebrush, Riverside Co.	8- 4- 6	1,157	suspended
Colan Dev. Co., No. 1 Redlands, San Bernardino Co.	25- 1- 2	2,392	suspended
Mason Oil Co., No. 1 Salton Sea, Imperial Co.	1-17-15	635	sd. sh. drilling
Woods, D. H., No. 1 Salton Sea, Imperial Co.	7-11-16	670	sd. sh. drilling
Borderland Oil Co., No. 1 Encinitas, San Diego Co.	12-13- 4	2,519	suspended
Borderland Oil Co., No. 3 Encinitas, San Diego Co.	12-13- 4	1,890	sd. sh. drilling
South Bay Oil Co., No. 1 Border, San Diego Co.	31-18- 2	1,243	suspended
Itasca Pet. Co., No. 1 Mesa, San Diego Co.	33-18- 1	1,700	cemented
Carr, O. K., No. 1 Capistrano, San Diego Co.	13- 6- 8	5,250	suspended
Oklahoma Oil Corp., No. 1 Palms, San Diego Co.	25-11- 8	1,128	sd. sh. drilling

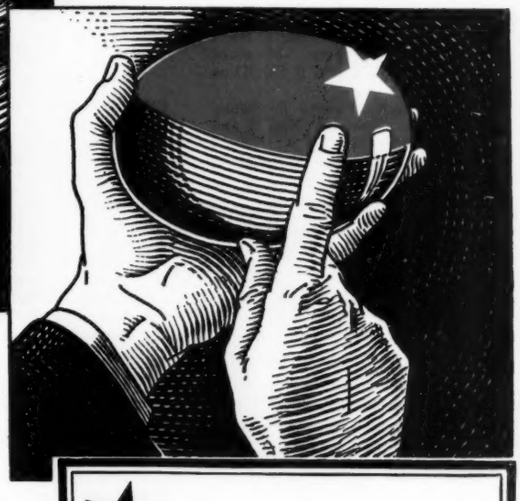
IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status:
Barnsdall, No. 1 Los Alamos, Santa Barbara Co.	31- 8-33	130	sd. drilling
Western Gulf, No. 1 Santa Maria, Santa Barbara Co.	5- 9-33	8,566	sidetracking
Midwest Oil Co., No. 1 Los Alamos, Santa Barbara Co.	2- 7-35	3,450	cleaning out
General Pet., No. 3 Goleta, Santa Barbara Co.	21- 4-28	6,912	plug 4,990 ft.
General Pet., No. 4 Goleta, Santa Barbara Co.	3- 4-29	148	sd. drilling
General Pet., No. 133 Goleta, Santa Barbara Co.	21- 4-28	2,030	suspended
General Pet., No. 134 Goleta, Santa Barbara Co.	21- 4-28	2,053	suspended
General Pet., No. 136 Goleta, Santa Barbara Co.	21- 4-28	2,047	suspended
General Pet., No. 137 Goleta, Santa Barbara Co.	21- 4-28	2,050	suspended
Bowles Oil Co., No. 140 Goleta, Santa Barbara Co.	21- 4-28	2,065	suspended
U. S. Pet., No. 141 Goleta, Santa Barbara Co.	20- 4-28	2,004	suspended
U. S. Pet., No. 142 Goleta, Santa Barbara Co.	20- 4-28	2,012	suspended
U. S. Pet., No. 143 Goleta, Santa Barbara Co.	20- 4-28	2,010	suspended
El Camino, No. 149 Goleta Tideland, Santa Barbara Co.	22- 4-28	2,010	suspended
Bellview Oil Co., No. 159 Goleta, Santa Barbara Co.	24- 4-29	2,099	suspended
Johnson & Strickland, No. 1-A Goleta, Santa Barbara Co.	19- 4-27	4,886	cleaning out
The Texas Co., No. 2 Carpinteria, Santa Barbara Co.	34- 4-24	465	core hole
Sovereign Oil Co., No. 1 Guadalupe, Santa Barbara Co.	20-10-35	5,500	suspended
Pacific Western, No. 1 Gibraltar, Santa Barbara Co.	14- 5-27	2,345	suspended
Pacific Finance Co., No. 1 Carpinteria, Santa Barbara Co.	Tideland	2,011	suspended
Associated, No. 1 Rincon Creek, Ventura Co.	19- 4-24	2,080	suspended
Bell, H. H., No. 1 South Mountain, Ventura Co.	22- 3-21	2,100	rd. sh. drilling
Pure Oil Co., No. 1 S. F. Canyon, Ventura Co.	15- 4-21	2,591	suspended
Union, No. 1 Calumet, Ventura Co.	3- 3-19	....	location
Woodruff Oil Co., No. 1 Miguelito, Ventura Co.	4- 3-24	....	building road
Graham & Loftus, No. 1 Goose Lake, Kern Co.	20-27-22	5,775	cleaning out
General Pet., No. 1 Buttonwillow, Kern Co.	6-28-23	2,615	shut in
Willshire Oil Co., No. 1-A Buttonwillow, Kern Co.	7-29-24	7,000	suspended
Milham Expl. Co., No. 6 Buttonwillow, Kern Co.	8-28-23	4,495	suspended
Purman, T. H., No. 1 McKittrick, Kern Co.	22-29-21	2,760	sd. sh. drilling
Federal Drlg. Co., No. 1 Buena Vista, Kern Co.	20-31-24	5,380	suspended
General Pet., No. 1 Beiridge, Kern Co.	30-28-21	7,900	br. sh. drilling
Wallace, K. C., No. 1 Beiridge, Kern Co.	32-29-21	4,222	suspended
Rio Cal Pet., No. 1 Shale, Kern Co.	2-27-18	2,355	suspended
Wicker, Sy., No. 1 Arvin, Kern Co.	12-30-28	3,850	suspended
Shell, No. 1 Weed Patch, Kern Co.	29-30-29	5,910	suspended
Osborn, Colter, No. 1 Weed Patch, Kern Co.	15-30-29	3,465	suspended
Osborn, Colter, No. 2 Weed Patch, Kern Co.	15-30-29	3,005	testing
Fullerton Oil Co., No. 2 Semitropic, Kern Co.	25-27-23	2,764	core hole
Standard, No. 1 Devils Den, Kern Co.	14-25-18	1,600	suspended
Cumberland Oil Co., No. 3 Devils Den, Kern Co.	17-26-18	3,225	fishing
Signal Oil Co., No. 1 Blackwell Corner, Kern Co.	15-26-19	106	suspended
United Kern Pet., No. 1 Mojave, Kern Co.	26-10-14	1,065	suspended
Meridian Oil Co., No. 1 Mojave, Kern Co.	11- 9-15	4,000	suspended
Kendall Dev. Co., No. 1 Mojave, Kern Co.	27-11- 9	1,079	hd. sd. drilling
Harding, J. B., No. 1 Mojave, Kern Co.	5-10-10	1,030	redrilling
Barnsdall Oil Co., No. 1 Tejon, Kern Co.	15-11-20	2,777	sd. sh. drilling
Ritchie, J. J., No. 1 Tejon, Kern Co.	33-11-19	6,025	suspended
Descanso Oil Co., No. 1 Tejon, Kern Co.	31-11-19	rig	rigging up
Associated, No. 1 Jacalitos, Fresno Co.	22-21-15	6,197	suspended
Kingsburg Expl. Co., No. 1 Kingsburg, Fresno Co.	30-16-23	2,390	suspended
Kent & McDonald, No. 1 Carrizo, San Luis Obispo Co.	3-32-22	2,630	sd. sh. drilling
Trav-El Oil Co., No. 1 Carrizo, San Luis Obispo Co.	7-32-22	2,450	cleaning out
Indian Dome Oil Co., No. 1 Edna, San Luis Obispo Co.	26-31-12	3,380	cleaning out
Martin, J. D., No. 1 Edna, San Luis Obispo Co.	5-31-13	2,990	redrilling
Paso Robles Oil Co., No. 1 Edna, San Luis Obispo Co.	27-27-11	4,027	cleaning out
Emerich Oil Co., No. 1 Atascadero, San Luis Obispo Co.	13-28-13	1,730	reaming
Schilling, C., No. 1 Atascadero, San Luis Obispo Co.	1-29-12	1,650	suspended
Pacific Inland, well No. 1, Monterey Co.	19-23-15	2,280	suspended
Brown, W. F., No. 1 Parkfield, Monterey Co.	15-23-14	1,051	suspended
Guess, E. B., No. 1 Corcoran, Kings Co.	7-21-21	6,197	redrilling
Neil, W. B., No. 1 Dudley Ridge, Kings Co.	32-22-20	rig	rigged up
Guess, E. B., No. 1 Dudley Ridge, Kings Co.	13-22-22	1,996	suspended
Irma Inv. Co., No. 1 Dudley Ridge, Kings Co.	7-23-20	1,345	gas well—idle
Irma Inv. Co., No. 2 Dudley Ridge, Kings Co.	7-23-20	1,224	plugging
Eagle Oil Co., No. 1 Dudley Ridge, Kings Co.	15-23-20	691	cleaning out
Kettleman O. & G. Co., No. 1-A Dudley Ridge, Kings Co.	20-23-20	1,194	gas well—idle
Valley Expl. Co., No. 1 Dudley Ridge, Kings Co.	12-23-19	1,302	cemented
Valley Expl. Co., No. 2 Dudley Ridge, Kings Co.	12-23-19	1,200	suspended
Knudsen & Schmidt, No. 1 Reef Ridge, Kings Co.	36-23-17	5,894	hd. sd. drilling
Seymour, L. W., No. 1 Avenal, Kings Co.	10-23-16	1,148	suspended
Tulare Basin Gas Co., well No. 1, Kings Co.	2-23-19	980	cleaning out
Tulaco Oil Co., No. 1 Corcoran, Tulare Co.	20-22-22	rig	suspended
Ducor Pet. Co., No. 1 Ducor, Tulare Co.	14-24-27	2,200	suspended
Inland Valley Oil Co., No. 1 Visalia, Tulare Co.	24-17-24	2,092	suspended
Gravity Expl. Co., No. 1 Alpaugh, Tulare Co.	11-24-23	rig	suspended
Ellis & Sanford, No. 1 Tulare Lake, Tulare Co.	20-24-23	1,920	plug 1,487 ft.
Twin State Oil Co., No. 1 Point Arena, Mendocino Co.	14-12-17	7,694	suspended
Orinda Pet., well No. 1, Contra Costa Co.	32- 1- 3	2,120	suspended
Colusa Oil Co., No. 1 Bush, Colusa Co.	31-15- 4	1,040	suspended
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.	3- 2-10	4,750	cleaning out
Hilderbrandt, R., No. 1 Crows Landing, Stanislaus Co.	36- 6- 7	1,130	suspended
Orland Oil Synd., No. 1 Orland, Tehama Co.	31-23- 3	3,040	suspended
Union Oil Co., No. 1 Tracy, San Joaquin Co.	14- 3- 6	3,800	bl. sh. drilling

IN "SAUCER TEST" RED LEAD PRIMER OUTLASTS *all others 4 to 1*



● Dutch Boy Red-Lead is a fine, highly oxidized red-lead supplied in two forms—paste and liquid. The paste comes in natural orange red, is readily mixed to brushing consistency and can be tinted to darker colors. Dutch Boy Liquid Red-Lead (ready for the brush) is available in the natural orange red, two shades each of brown and green, and also in black.



● If you've looked for proof, here it is...proof that pure red-lead is the durable primer for iron and steel structures! Read this brief account of an ingenious "Saucer Test" developed by the engineering staff of a southern railroad.

In this test, half of each small steel saucer is given a priming coat of Dutch Boy Red-Lead. The other half in each case is painted with one of the other paints to be tested. All saucers are filled with locomotive stack cinders and water, then placed on outdoor racks for a period of months with water added as it evaporates. The saucers are allowed to stand until the paints break down.

The "Saucer Test" offers an excellent way to test metal-protecting paints because it closely reproduces actual service conditions. The corrosive sulphuric acid reaction that takes place when cinders and moisture lodge in the webs and angles of metal structures is duplicated in the test saucers.

Scores of priming paints have been put through the "Saucer Test" by this one southern railroad. In every case... red-lead has outlasted every other priming paint by 4 to 1—or better! As a result, this railroad has standardized on pure red-lead for priming paint for metal structures.

Another railroad used a similar test with a salt solution to find the most durable paint for bridges exposed to brine drip from refrigerator cars. In this brine test, as in the cinder test, red-lead proved its unique value as a safeguard against rust and deterioration.

Why not make this practical, easy "Saucer Test" yourself? Prove to your own satisfaction that Dutch Boy Red-Lead will protect better against the corrosion that causes destruction.

Let us send you a testing saucer and a sample of Dutch Boy Red-Lead ready for the brush, together with full directions for making the "Saucer Test". Just make your request on your company letterhead.

NATIONAL LEAD COMPANY

New York, 111 Broadway; Buffalo, 116 Oak St.; Chicago, 900 W. 18th St.; Cincinnati, 659 Freeman Ave.; Cleveland, 820 West Superior Ave.; St. Louis, 722 Chestnut St.; San Francisco, 2240 24th Street; Boston, National-Boston Lead Company, 800 Albany Street; Pittsburgh, National Lead & Oil Company of Pennsylvania, 316 Fourth Ave.; Philadelphia, John T. Lewis & Bros. Co., Widener Building.

DUTCH BOY RED-LEAD

★

Saucer used to make "Saucer Test" for paint durability. Made of steel, 5½ inches in diameter by ⅝ inch deep. Write for testing saucer and sample of red-lead. Prove to yourself that Dutch Boy Red-Lead is your property's best safeguard against rust.

"Save the surface and you save all"—Dutch Boy Red-Lead

LITHARGE of correct physical character and extreme chemical purity is a necessity in oil-refining. Such litharge is made by the makers of Dutch Boy Red-Lead and Dutch Boy White-Lead. You can always rely on its unvarying uniformity. Our nearest warehouse can give you quick shipment.

Operations Increase in Central West

Thirteen Completions Reported in Central Ohio. Drilling Campaign in Stark County Continues. Developments in Kentucky

By George A. Whitney
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Feb. 1.—Operations are increasing somewhat over the Central West Field, comprising northwestern Ohio, Indiana, Illinois, Michigan and Kentucky, but weather conditions are rather against operations on account of the daily rains which make it almost impossible to move around on the mud roads. Regardless of the weather most of the various divisions brought in a few wells.

In the old Lima Field of northwestern Ohio, the week shows three completions, one a producer and two gas wells, while a large number of old wells were abandoned. The Commonwealth Gas Corp. drilled in what shows for an 8-bbl. producer on the Thomas Mullady farm, Section 12, Cessna Township, Hardin County, from 1,381-88 feet. In the Tiffin Field, Liberty Township, Seneca County, R. E. Green found a light gas well on the T. C. and B. G. Shoull farm, Section 30, and Cessna-Feasel Oil Co. also found a light gas well on the Charles J. Hoffer farm, Section 9, same township.

Numerous old wells were abandoned in the old field. In Sandusky County, Scott Township, Onsel Brothers abandoned Nos. 1, 2, 3, 4, 5, 6, 7 and 8 Eli Kline farm, Section 32.

In Hancock County, Liberty Township, the Ohio Oil Co. abandoned Nos. 9 and 17 William Ramage, Section 4; No. 13 William Cusac, Section 4; No. 4 William Ramage, Section 8, and No. 35 W. C. Watson, Section 15. In Portage Township, the same company abandoned No. 2 H. W. Stokerm, Section 34; Nos. 2 and 8 James M. Steen, and Nos. 5, 7, 8 and 20 J. H. King farm, all in Section 34. In Allen Township, same company did the same with No. 4 A. Knoke, Section 14, and No. 12 P. Alexander, Section 35

In Wood County, Henry Township, the Ohio Oil Co. abandoned No. 35 Vincent H. Coons, Section 22; No. 31 B. A. Lawrence, Section 22, and No. 1 Lawrence "E.", Section 23. In Bloom Township, same company abandoned No. 2 Frank Slotterbeck, Section 17; No. 4 Israel Simon, Section 32, and No. 27 Northwestern Ohio Natural gas farm, same section.

In Auglaize County, Douchouquet Township, Lee Tester pulled out Nos. 2, 6, 7 and 8 Fred Presser farm, Section 20.

In Wyandot County, McPheron, Miller & Cook are starting No. 4 on the Bowman-Brillhart farm, Section 21, Tymochtee Township, and on account of high water can do nothing as the location is in low ground.

CENTRAL OHIO

Thirteen completions were reported from the Central Ohio Field, of which four were producers with an initial production of 113 bbls., two dry holes and seven gas wells, while in new work starting, there were four locations made and seven were spudding, a total of 11, which is rather encouraging at this season of the year when the high waters and bad mud roads prevail, making development work more expensive.

In Ashland County no new completions were made, the only change being the moving in of a rig by Harnon & George for No. 5 on the David Horn farm, Section 4, Lake Township.

In Lorain County, Ramage and Willis are drilling a second test on the Fred Armbruster farm, Lot 72, Grafton Township. Ohio Fuel Gas Co. has a rig in No. 2-5,633 on the Frank Stepka farm, also in Lot 72, same township.

In Medina County, Chatham Township, an unusually good well was brought in by the Preston Oil Co. in No. 1-496 on the H. H. Packard farm, Lot 27, which showed an initial production of 65 bbls. at from 409 to 486, in the Berea sand.

In Richland County, the Commonwealth Gas Corp. made a location on the Angeline Cates farm, Section 11, Jefferson Township. The wildcat test of Daly and others on the A. J. Petit farm, Section 7, Plymouth Township, same county, found the Clinton Lime formation dry and at last report was 60 feet in the Trenton limestone.

In Licking County, Wehrle Gas Co.'s test on the James M. Iches farm, Section 3, Hopewell Township, found a very light showing of oil at from 3,174 to 3,232 feet, but not enough for a commercial producer and announced as a dry hole.

In Muskingum County, Brush Creek Township, the Pure Oil Co.'s No. 4 Charles Enoch farm, Section 3, is a very fair gas well in the Clinton lime from 3,944 to 4,003 feet. Fritz Oil & Gas Co. is drilling No. 2 on the Edward Middleton farm, Section 10, same township.

In Athens County, Cannan Township, the Ohio Fuel Gas Co. got a light gas producer in No. 1-5,607 Robert Seaman farm, in Fractional Section 2, Cannan Township, in the Berea sand at 1,405 feet. Standard Natural Gas Co.'s test on the Almeda J. Young farm, Section 12, Waterloo Township, same county, is reported good for 15 bbls. initial in the Berea sand from 1,020-25 feet. In Lee Township, I. C. Robinson's test on the Alvin D. Kline and William White farm. Section 13, is reported a fair gas producer from the Berea sand at 1,198 feet.

Stark County

In Stark County where the big drilling play of the field is the Athens Oil & Gas Co. reports a very nice gas well on the M. Kisner farm, Section 11, Jackson Township, in the Clinton lime from 4,332-76 feet. Medford Oil & Gas Co.'s No. 1 Daisy Bird farm, Section 16, same township, is an average gas producer in the Clinton lime from 4,255-88 feet. East Ohio Gas Co. is drilling No. 3 Howard B. Fawcett farm, Section 17, same township. Same company has a rig on the Brainard K. Pry farm, Section 15, same township. W. F. Shetler is drilling on the A. L. Funk farm, Section 22, F. A. Brendall and others are drilling No. 7 Lake Cable Co. land, Section 14, same township, and the same party is drilling No. 2 Charles Yearkey farm, Section 21, and No. 1 on the H. and A. Huthmacher farm, Section 11, Jackson Township. Same parties' No. 3 on the T. and F. Lesser farm, Section 12, Lawrence Township, same county, is an average gas well in the Clinton lime from 4,150-70 feet. In Paris Township, also in Stark County, the East Ohio Gas Co. struck a dry hole on the H. Starky farm, Section 29, in the Clinton lime, at 5,349 feet.

In Guernsey County, George Jewell

(Continued on Page 55)

Good Gas Well in Greene County, Pa.

Perry Township Test Indicated at 6,000,000 Feet. Wildcat in Monongalia County, West Virginia, Is Dry Hole

By Staff Correspondent

PITTSBURGH, Pa., Feb. 1.—The largest gas well completed in Southwest Pennsylvania in a year was brought in by the Equitable Gas Co., a subsidiary of the Philadelphia Co., in Perry Township, Greene County. There, this company drilled its old test on the A. B. Wade farm deeper, and when the Gantz sand was struck at 2,978 feet drilling was suspended and the well blew itself in. The well has not yet been tubed, but in testing the flow in the 6⅝-inch casing, a gauge slightly in excess of 6,000,000 feet a day is indicated.

The wildcat test of S. W. Meals and others on the George S. Davidson farm in Morgan district, Monongalia County, West Virginia, was completed at 2,900 feet, the Berea sand. As this test lies slightly over 2 miles from production it was held to be important, although it stands as a dry hole. The Speechley sand was dry, and there is a very light showing of gas in the Berea sand estimated at about 6,000 feet a day.

Completions increased in the three districts of the lower eastern fields. Three oil producers, with an initial production of 83 bbls., 13 new gas wells, several of which were fair, were completed and there were reports also of five dry holes. As usual, the greater part of the new production is in Southeast Ohio.

SOUTHEAST OHIO

New completions in Southeast Ohio consisted of two oil producers in the well drilled Medina County, two gas wells and one dry hole. In the shallow drilling in Chatham Township, Medina County, the Preston Oil Co. completed a test on the Miles Packard farm in Lot 2, Section 16. It was drilled to a depth of 486 feet and produced 35 bbls. the first day after shot. On Lot 20 of the same section E. R. Edson & Son Co. completed their No. 33 on the Morris A. and Eva Franks farm at a depth of 510 feet. After shot it made 15 bbls. the first day. On Lot 1, Section 2 of Chatham Township, the Oko Oil & Gas Co. drilled its No. 36 on the Jesse McVicker lease to a depth of 435 feet. It was abandoned as a dry hole.

Two miles west of Chesterhill in Section 18, Marion district, Morgan County, the Cumberland Oil Co. completed a second test on the H. S. Hopkins farm at a depth of 1,689 feet and in what is considered the second Berea sand. It is a gas well rated at 200,000 feet a day. In Coshocton County, the Ohio Gas Light & Coke Co. drilled a fourth well on the John Hault farm in Section 1, Mill Creek Township. It is a very light gas well in the Berea sand at a depth of 851 feet.

Drilling in Ohio

In Coshocton County, the Preston Oil Co. is drilling on the A. J. and B. W. Beatty farm in Newcastle Township at 2,700 feet. In Jefferson County, Sanders Brothers are down 1,100 feet on the Virginia Crawford farm in Section 20, Island Creek Township. In Perry County the Kachelmacker Estate has a rig standing for another well on the Hemlock Coal Co. tract in Section 25, Coal Township. In Licking County the Peoples Bank & Trust Co. Account No. 32 of Marietta, Ohio, has started drilling from the Berea sand down to the Cinnamon sand in its No. 5 on the J. W. L. Motherspan farm, Lot 12, Franklin Township.

In Hocking County the Griffin Producing Co. is drilling a second test on the Clark J. Parks farm in Section 30, Green Township, which has reached 2,100 feet. In Tuscarawas County, the Gordon Oil Co. and others have a rig standing for No. 4 on the Ralph Huffman farm, Lot 35, Washington Township. In Noble County, Metcalf and Robinson have started a second test on the Fred Springer farm, Section 28, Elk Township. It is drilling at 200 feet. In Enoch Township, Harper Brothers have reached 350 feet on the D. Moreland farm in Section 31. In Athens County, Walter and Sniffin have a rig standing on the A. H. Arbaugh farm in Section 5, York Township, but have not yet prepared for drilling.

WEST VIRGINIA

Totals in West Virginia included one fair-sized oil producer, nine gas wells and four dry holes, of which the Monongalia wildcat was one. The oil well was a test of Frank Yates and others on his own property in Harts Creek district, Lincoln County. It was completed at a depth of 1,979 feet in the Big Lime sand showing for 33 bbls. a day initial. This oil is peculiarly black in color, characteristic of the Big Lime in Lincoln County.

One of the best gas wells for the week—and there were several very fair ones—was in Guyandotte district, Cabell County, a test of D. H. Campbell and others on the C. C. Dunn farm. It was completed in the shale at 3,194 feet and is showing for slightly more than 1,000,000 feet a day after shot. In Boone County, the South Penn Oil Co. completed No. 4 on the T. J. Hopkins farm in Washington district in the Berea sand at a depth of 2,226 feet. It will make a fair gas well.

In Calhoun County, which still continues active, Ed Hess completed his third test on the John Evans farm in Lee district in the Injun sand. It will make a small gas well. In Gilmer County McCall and others completed No. 5 on the Fletcher H. Stout farm in Center district. It was drilled in the Big Injun sand at a depth of 1,925 feet and was shot with a 40-quart charge. It is a very light gas well. In Troy district, of this county, the Carnegie Natural Gas Co. drilled its test on the Charles Garrett farm, on the waters of Horn Creek, through the Big Injun sand, to a depth of 2,852 feet. No production was found.

In Kanawha County, Godfrey L. Cabot completed his No. 51 on his lease of the Federal Coal Co. tract in Sherman district. It went to a depth of 3,671 feet and is rated as a fair gas well. In Cabin Creek district, the same operator drilled his No. 23 on the Quincy Coal Co. tract to 1,959 feet and abandoned it as a dry hole. Another duster was the second test of the Pittsburgh & West Virginia Gas Co. on the Hattie L. Smith farm in Sardis district, which was drilled to 3,835 feet without striking production.

In Lincoln County the Campbell Drilling Co. completed a test on the Thomas P. McMellon lease in Sheridan district at a depth of 2,152 feet. It will make a small gas well after shot. In Mason County the E. C. Moffett Drilling Co.

(Continued on Page 54)

HOMOWELD
The Annealing or Stress Relieving Furnace
Where localized heat is applied to a vessel as in welding, thermal stresses are unavoidably set up and can only be relieved by proper heat treating. Stress relieving, like welding, requires trained experts—trained by experience, and only such are qualified to specify the temperature and time required for the stress relieving of the many shapes, sizes, and metal thicknesses of vessels welded in the Vogt shops.
Automatic regulating devices accurately control and record the temperature and uniformity of heat throughout the furnace. Only such precision methods positively guarantee proper and complete stress relieving.
The Largest Furnace Ever Built for Stress Relieving Welded Vessels.
Vogt HOMOWELDED Vessels Fully Insurable
Whether for fired or unfired service, leading insurance companies readily rate Vogt vessels in the highest class based upon their own rigid requirements. To meet these requirements it is absolutely essential to have thoroughly trained personnel together with the very best equipment. Both are evidenced in Homowelding.
The Hartford Steam Boiler Inspection and Insurance Company have given the Henry Vogt Machine Company their hearty approval of Homowelding for unlimited plate thickness.
[19]

The above illustrated page of Bulletin W-1 gives some idea of its contents. New equipment for producing in quantity while controlling the high quality of the Vogt *HOMOWELD* is shown and described in detail.

MACHINE CO.

INCORPORATED

KENTUCKY

Cleveland Dallas Philadelphia

Valves and Fittings, Water Tube Boilers, Ice Making and Refrigerating Heat Exchangers.

Oil Industry Equipment and Supplies

COLUMBIAN TANK PUTS NEW DEVICES IN FIELD

Pictured here are shown three new developments by the Columbian Steel Tank Co. of Kansas City, Mo., for use on storage tanks in the oil fields. At the

top is an open view of the plain thief hatch, non-sparking, corrosion-proof and vapor-tight. The lid opens at 4 ounces pressure.

In the center is a closed view of the new vacuum pressure thief hatch, also corrosion-proof, vapor-tight and non-sparking. Its pressure range may be adjusted from 4 to 16 ounces and the vacuum valve operates at one-half ounce. It has no rubber gaskets, being all-metal. The valve mechanism is springless, consisting of a counterbalanced vacuum plate.

At the bottom is a vacuum pressure valve developed especially for sour oil conditions but practical in any field. The valves and valve seats are Bakelite and all moving parts are corrosion-proof. The pressure valve opens at 3 ounces pressure and the vacuum at one-half ounce. Either valve may be removed from the main housing and adapted individually in any position desired. It is built regularly for a 4-inch pipe connection.

CHANGE OF COMPANY NAME

Calco pumps and special alloy valves will now be made and distributed by the Alloy Pump & Valve Co., 6007 Euclid Avenue, Cleveland, Ohio. The Cleveland Alloy Products Co. will continue the manufacture of alloy castings at its foundry, 16600 Euclid Avenue, Cleveland. Organization of the Alloy Pump & Valve Co. was an economic move to improve distribution of products.

PUSH BUTTON STATIONS

A new line of pendant-type, momentary-contact push button stations, designated Type CR-2940, has been announced by the General Electric Co. The new line is designed primarily for the control of motors driving machine tools such as planers and boring mills. The stations may be fitted with sufficient cable so that they can readily be carried around by the operator.

NOTES ABOUT TRADE LITERATURE

"Turning Losses Into Profits in Times Like These," is the subject of an interesting piece of literature distributed by the Warner & Swasey Co., Cleveland, Ohio, manufacturer of turret lathes for bar work and chucking work.

Among other good reading in the January number of Oxy-Acetylene Tips, published by the Linde Air Products Co., New York, is an article on "Welding and Cutting in 1931."

"Real Horsepower or Paper Horsepower" is the title of a cleverly designed booklet issued by the Waukesha Motor Co., Waukesha, Wis.

A 40-page booklet entitled "National U. S. S. Stainless and Heat-Resisting Pipe and Tubes" is ready for distribution by the National Tube Co., Pittsburgh, Pa. The publication is prepared with special reference to U. S. S. 18-8 alloy tubular products.

The C. J. Tagliabue Manufacturing Co. of Brooklyn, N. Y., announces a new and complete 16-page catalog describing and illustrating the full line of flow instruments including flow recorder-controllers for liquids; flow meters and orifice meters for gases; flow recorder-controllers for gases and liquid level recorder-controllers.

The General Electric Co. is mailing a loose-leaf bulletin on plate-type field rheostats.

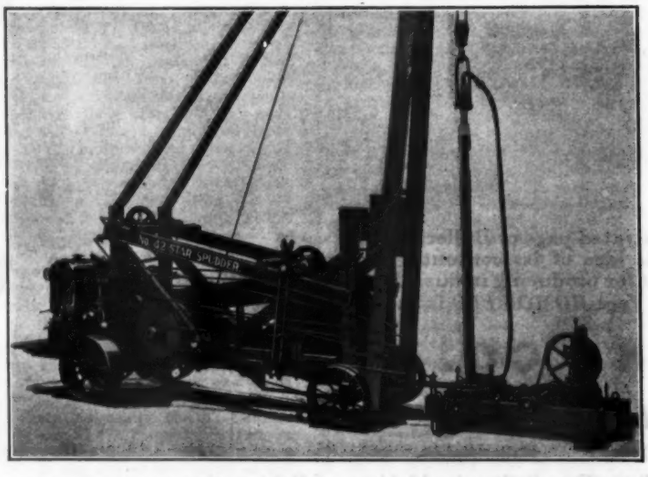
The Air Reduction Sales Co., 60 East Forty-second Street, New York, has issued a new catalog descriptive of Airco-Davis-Bournonville welding and cutting apparatus and supplies. The catalog is pocket size, of 26 pages indexed for ready reference, and lists specifications and prices on all types of welding and cutting torches, regulators, cylinder trucks and hose connections.

The 1932 Rex paver, called the Rex Road-Maker, is described in a new catalog announced by the Chain Belt Co., Milwaukee, Wis.

SHOE-TYPE THRUSTOR BRAKES

The General Electric Co. announces a new line of shoe-type, weatherproof, Thrustor-operated brakes (Type CR9516) for alternating current motors on mill, crane, hoist and similar applications where severe service requirements must be met. These brakes provide quick, cushion-like braking in either direction of rotation with light or heavy loads, and are adjustable for braking torque over a wide range. The characteristics of the Thrustor make it particularly well adapted as an operating medium. It operates well within the time required to release and set a brake satisfactorily. In a fraction of the time required for the Thrustor to move through its complete stroke, the motor comes up to full speed and the speed of thrust remains constant during the remainder of the stroke. The uniform speed characteristic also results in a smooth, cushion-like setting when the brake is de-energized. The use of the Thrustor minimizes braking mechanism inertia, shock and noise. On many crane applications jogging within a fraction of an inch of hook travel is required. With a Thrustor brake, the motor armature may be rotated when jogged as little as one-twentieth of a revolution.

ROTARY UNITS FOR USE WITH CABLE TOOL MACHINES



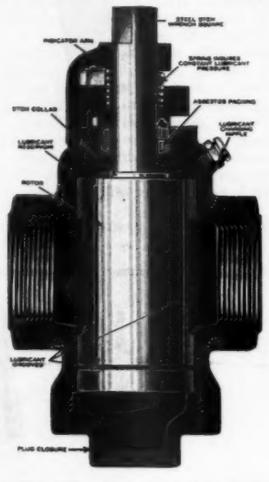
The Star Drilling Machine Co. has developed a line of rotary units of convenience and flexibility for use with cable tool machines. The pump and table are built into a compact unit on skids easily moved and attached. It can be operated by chain or shaft drive whichever is the most convenient.

Table sizes available are 10, 13 and 15-inch. Mud pumps of proper size can be furnished with the unit or with separate drive if desired. With these combination rotary units Star machines can be used for rotary or chilled shot work in addition to cable-tool drilling, providing an efficient drilling method for any formations encountered.

Detailed information can be had on Star rotary machines and attachments by writing the Star Drilling Machine Co., Akron, Ohio.

LUNKENHEIMER "SLASET" VALVE HAS NEW FEATURE

The Lunkenheimer "Slaset" lubricated rotor valve, developed by the Lunkenheimer Co., Cincinnati, Ohio, is simple in design, consisting essentially of a straight-bored body and cylindrical rotor. It provides the advantages of self-lubrication, absolute sealing and easy turning. The lubricant is forced into the reservoir above the closed top of the rotor, the pressure forcing the rotor down as the



reservoir fills. The pipe line pressure, aided by an external spring, causes the rotor to act as a booster plunger, which forces the lubricant into pockets in the body and grooves in the rotor. From here it is distributed to form a protecting lubricant film for the bearing surfaces, as well as a complete seal when the valve is closed.

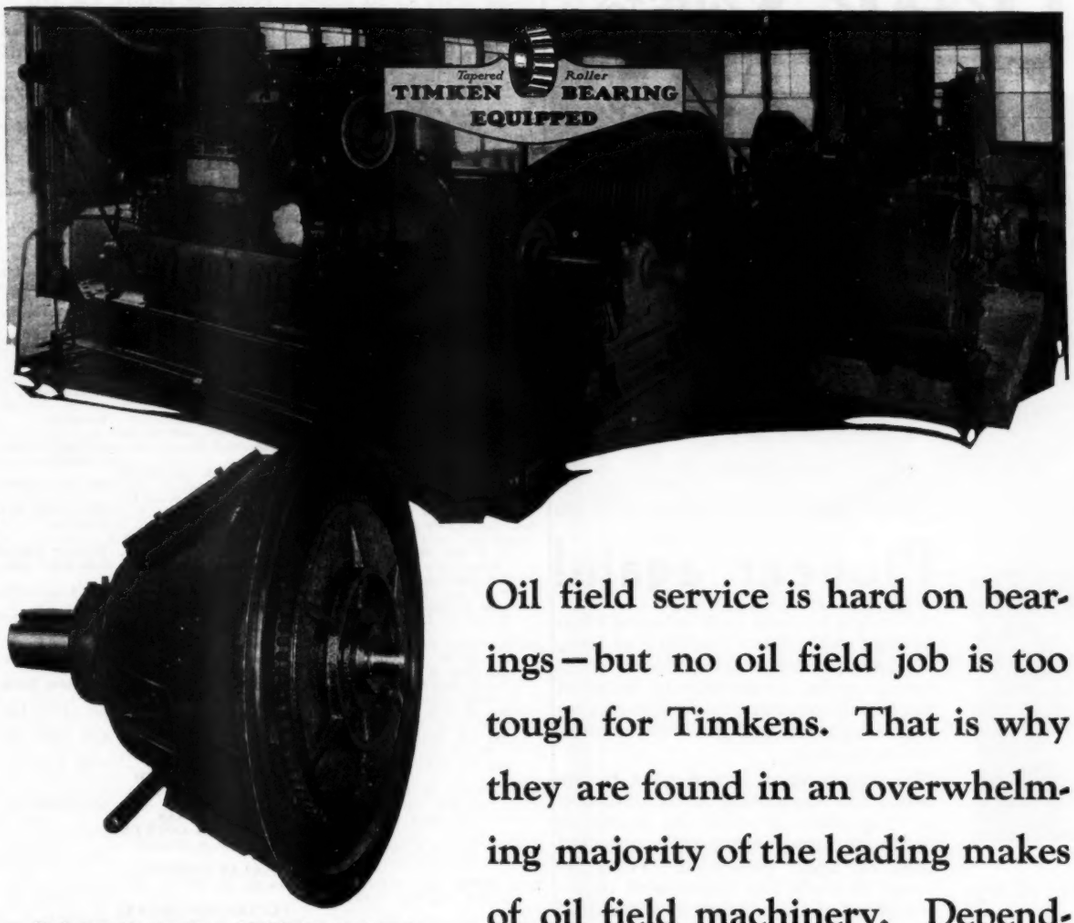
When the valve is operated the sealing groove which passes the port does not contact the lubricant reservoir, and there is no material loss of lubricant, which is consumed only during opening and closing of the valve, to replenish the sealing film on the bearing surfaces.

An indicator attached to the stem serves a three-fold purpose. It acts as a positive open and closed stop; plainly shows whether the valve is open or closed; and indicates the relative amount of lubricant in the reservoir.

A feature of the valve is that the stem and rotor are not integral. The stem is made of steel, giving extra strength to this part. The flexible stem-rotor connection permits the rotor to seat without binding or "cocking," even though the packing may be compressed unevenly around the stem. This construction is also an aid to tight closure, as pressure in the line holds the rotor against the outlet port, without any interference from the stem.

BUYS TWO COMPANIES

Arthur A. Johnson, president of the Arthur A. Johnson Corp., contractor, announces the purchase of the assets and good will of McRae Paint Products, Inc., and McEverlast, Inc., manufacturing and selling units engaged in the distribution of the Hunt process of curing concrete and McEverlast pipe line coatings. Mr. Johnson states that a new corporation will be formed which will combine the activities of the old companies, continuing the business on a basis of national and international distribution. G. R. March, formerly vice president and eastern manager of McEverlast, Inc., will be associated with Mr. Johnson.



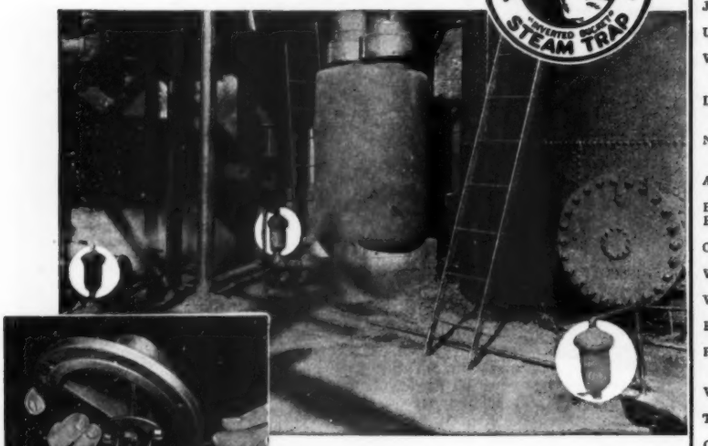
Buda gasoline engine with Timken-equipped Twin Disc Clutch and Timken-equipped pillow block, in pumping service in the Kilgore Field of the Texas Company.

Oil field service is hard on bearings—but no oil field job is too tough for Timkens. That is why they are found in an overwhelming majority of the leading makes of oil field machinery. Dependability, long life and low upkeep cost go hand in hand with Timken tapered construction, Timken positively aligned rolls and Timken-made steel in all types of equipment. It will pay to specify Timken Bearing Equipped.

THE TIMKEN ROLLER BEARING CO., CANTON, OHIO

TIMKEN *Tapered Roller* **BEARINGS**

ARMSTRONG Inverted Bucket TRAPS



Pioneer again!

Already a favorite with refining engineers, a still higher standard of trouble-free performance and service is now provided in Armstrong traps. A major improvement in design assures even longer life and yet lower maintenance expense.

The organization which gave to the world the Armstrong Inverted-Bucket Trap, more of which are in service than any other mechanically operated trap, has again pioneered. Years devoted to study and experiment in every phase of trap design have resulted in the perfection of a new free-floating lever mechanism, which is now available in a complete new line of Armstrong traps.

Chief among the advantages of the new free-floating lever mechanism are its greater simplicity and the fact that it permits the use of a high leverage for opening the trap valve and a low leverage in its closing. The low closing leverage insures longer, maximum life in the entire valve mechanism.

This new, yet soundly proven feature affords still another reason for Armstrong trap ownership and use. Like every other detail of Armstrong design and construction it is a product of over twenty years successful experience in making inverted bucket traps exclusively.

Armstrong traps are furnished with semi-steel castings for pressures up to 300 pounds and with forged steel bodies and caps for any commercial pressure and temperature.

New free-floating valve lever simplifies operating mechanism and insures longer life for all valve parts—

* * *

For the first time it is possible to provide one leverage for closing the valve of an inverted bucket trap and another for opening it. It requires much more force to open a valve against the pressure in the line than it does to close it again. So, while a 4 to 1, or higher, leverage may be needed for the opening movement, that same leverage on the closing movement may cause excessive wear on the entire mechanism.

The illustration shows the new Armstrong free-floating lever. When the bucket moves up it pushes directly against the valve stem until the valve engages the seat. When the bucket starts down, it first releases this pressure on the valve stem and then pulls on the end of the lever by means of the hooked strap, forcing the valve away from its seat by a high leverage.

Write for bulletin on Armstrong traps with the free-floating lever.

ARMSTRONG MACHINE WORKS
868 Maple Street, Three Rivers, Mich.
Stocks in all principal cities

OGJ 2-4 Gray

WILDCAT OPERATIONS IN LOUISIANA-ARKANSAS

(Continued from Page 32)

MOREHOUSE PARISH

United Gas Public Service Co.'s No. 2 Sandidge, Sec. 11-20n-4e, 656 ft. S, 1,332 ft. W, NE cor. NW ..... S.D.; high wtr. 2,132 ft.

NATCHITOCHES PARISH

Dr. H. S. Gerson's No. 1 Smith, Sec. 11-10-8, 2,000 ft. N, NE cor. of irregular Sec. 10, in Sec. 11 ..... S.D. 585 ft.
Dr. H. S. Gerson's No. 2 Smith, Sec. 11-10-8, 200 ft. N and 300 ft. W of NE cor. ..... Location.
Cooper et al's No. 2-A Cooper, C SE SE, Sec. 32-11-10.. S.D. 1,518 ft.
R. A. Keaton's No. 1 Stephens, Sec. 25-10-6, 320 ft. N and W, SE cor. NW NW ..... S.D. 178 ft.
C. M. Talley et al's No. 1 C. M. Talley, 1,980 ft. W, 660 ft. S, NE cor. SE, Sec. 29-11-10..... S.D. 1,380 ft.

OUACHITA PARISH

J. J. Potts, agent's No. 1 Robinson-Reed, Sec. 11-18-4e, 1,745 ft. N, 780 ft. E, SW cor. Sec. ..... Rigged up and S.D; high wtr.
United Gas Public Service Co.'s No. 1 Wiley, Sec. 8-18-5, 660 ft. S and E, NW cor. ..... Drlg. 2,450 ft.
Wilson & Mitchell's No. 1 Williams, Sec. 5-16-1e, 330 ft. E, 240 ft. S, NW cor. SW SE ..... Drlg. 1,870 ft.

RED RIVER PARISH

La. Oil Dev. Co.'s No. 2 La. Delta Pecan Co., 2,950 ft. S, 300 ft. E, NW cor., Sec. 27-13-11 ..... Spudded and S.D. 50 ft.

RICHLAND PARISH

National Gas Co.'s No. 1 Singletary, 1,980 ft. N, 660 ft. W, SE cor., Sec. 20-15n-7e ..... S.D. 2,515 ft.

SABINE PARISH

Abney & Davidson's No. 1 Frank Martinez, 330 ft. S and W, NE cor. NW, Sec. 11-7-13 ..... Set 10-in. 102 ft.
Baird & Stone's No. 1 McNeely, Sec. 14-7-11..... Derrick.
Beene et al's No. 1 Ezernack, Sec. 2-7-13, 1,070 ft. S, 250 ft. W, NE cor. ..... Drlg. 1,100 ft.
Coates Pet. Co.'s No. 1 Parle, Sec. 3-7-13, 300 ft. S and W, NE cor. NE SE ..... Drlg. 2,279 ft.
W. M. Coates' No. 1 Stille, 330 ft. N, 660 ft. W, SE cor., Sec. 35-8-13 ..... Derrick.
W. M. Coates et al's No. 1 Mansfield Hardwood Lbr. Co., Sec. 36-8-13, SW cor. SE SE ..... Rigging up.
B. A. Ferrell's No. 1 Haley, Sec. 6-7-12, 300 ft. S and E, NW cor. NW SW ..... Location.
R. L. Gay, tr.'s No. 1-A Long Bell Lbr. Co., 430 ft. S, 200 ft. W, NE cor. NW NW, Sec. 10-8-13 ..... Coring broken lime and shale 4,524 ft.
W. F. Lacey's No. 1 McNeely, Sec. 14-7-11, 250 ft. S and W, NE cor. Sec. ..... Set 10-in. 100 ft; drlg. 1,800 ft.
T. M. LeGrand's No. 1 Peterson, 330 ft. N and E of C, Sec. 34-7-13 ..... S.D. 2,243 ft.
Geo. LeGrand's No. 1 McGough, Sec. 3-8-10..... Derrick.
Loring Oil Co.'s No. 20 Bowman-Hicks, Sec. 4-7-12, 330 ft. S and W, NE cor. NW NW ..... Testing 2,445 ft.
J. J. Keen, tr.'s No. 1 Belton (no check), Sec. 31-9-13 ... S.D. high wtr. 2,700 ft.
Pelican Nat. Gas Co.'s No. 1 Buckley, Sec. 6-7-10, 330 ft. N and E, SW cor. Sec. ..... Set 6-in. 2,438 ft.
Rush & French's No. 1 Martinez, Sec. 11-7-13, 330 ft. S, 990 ft. E, NW cor. ..... Completed flowing 3,000 bbls. 2,398 ft.
Ruston Drlg. Co.'s No. 1 McGehee, Sec. 28-8-12, 330 ft. N and W, SE cor. SW SW ..... Drlg. 2,305 ft.
Service Drlg. & Royalties Corp.'s No. 1-B Gardner, Sec. 7-7-10, 330 ft. S and E, NW cor. SW NW ..... Set 6-in. 2,450 ft.
J. E. Smitherman's No. 1 Smith, Sec. 7-7-10, 330 ft. S and E, NW cor. NW SW ..... Set 10-in. 102 ft.
A. H. Thames' No. 1 Edward est., 150 ft. NW SE cor. NE SE, Sec. 8-8-13 ..... S.D. 1,200 ft.
C. H. Tuttle et al's No. 1 Byrd, Sec. 7-7-10, 330 ft. S and E, NW cor. ..... Drlg. 1,420 ft.

TENSAS PARISH

A. R. Willis et al's No. 1 Currey, 1,320 ft. S, 1,320 ft. E, NW cor., Sec. 39-11-12 ..... S.D. 3,545 ft.

ARKANSAS

COLUMBIA COUNTY

Kendall Oil Co.'s No. 1 Fullenweider, Rhea & Kitchen, Sec. 13-17-22 ..... S.D.; W.O. 814 ft.

CLAY COUNTY

S. C. Jeffus' No. 1 Underwood, 510 ft. N, 350 ft. W, C, NW SE, Sec. 4-20-8 ..... S.D. 1,350 ft.

CLEVELAND COUNTY

Crum & Stillwell's No. 1 E. R. Bell, Sec. 10-10s-12w .... Rigged up and S.D.

CLEBURNE COUNTY

(Cable tools)

Donnelly-Craver et al's No. 1 Donophan Lbr. Co., SE cor. NW, Sec. 33-11-9 ..... S.D. 3,740 ft.

DALLAS COUNTY

J. H. James, tr.'s No. 1 Fordyce Lbr. Co., 200 ft. S, 200 ft. E, NW cor. SE, Sec. 11-9-15 ..... Arranging to resume drlg. at 2,514 ft.
Zepp O. & G. Co.'s No. 3 Hillman, Sec. 20-10-13, 180 ft. N, 450 ft. E, SW cor. NW NE ..... Location.

DREW COUNTY

Co-Operative Dev. Co.'s No. 1 Ogles, Sec. 35-15-5, 330 ft. S and E, NW cor. NE NW ..... S.D. 1,890 ft.

HOT SPRINGS COUNTY

Star Oil Co.'s No. 1 Cunningham, 285 ft. S, 285 ft. W, NE cor., Sec. 11-5-16 ..... S.D. 1,300 ft.

LINCOLN COUNTY

Lawrence Cook, tr.'s No. 1 McGhee Planting Co., 420 ft. S, 200 ft. W, NE cor. NE SW, Sec. 5-8-7 ..... S.D. 2,800 ft.

LITTLE RIVER COUNTY

Roberts Oil Co.'s No. 1 H. J. Russell, 330 ft. E, 330 ft. S, NW cor., Sec. 25-12-19 ..... Location.
Stephens et al's No. 1 Dierke Lbr. Co., Sec. 29-12s-21w, 150 ft. S, 330 ft. E, NW cor. NE NW..... Drlg. hard sand 2,563 ft.

LOGAN COUNTY

J. H. Flowers' No. 1 J. H. White, Sec. 13-6-26..... S.D.; W.O. 3,570 ft.

MILLER COUNTY

W. E. Noel et al's No. 1 Dickson hrs., 1,980 ft. W, 660 ft. S, NE cor., Sec. 11-20-27..... S.D. 1,955 ft.

OUACHITA COUNTY

Copenhaven et al's No. 2 Berg, C SE SE, Sec. 13-15-17.. S.D. 2,011 ft.

PIKE COUNTY

E. R. Henderson's No. 1 Tilyou, 660 ft. W, 500 ft. S, NE cor. NE SE, Sec. 26-8-14..... T.A. 2,909 ft.
E. R. Henderson's No. 1 J. L. Lee, 400 ft. S, 350 ft. E, NW cor. SW SE, Sec. 31-8-24..... S.D.; W.O. 1,020 ft.
E. R. Henderson's No. 1 W. B. East, 200 ft. S, 150 ft. W, NE cor., Sec. 13-9-23..... S.D. 338 ft.

PRAIRIE COUNTY

Powell Creek O. & G. Co.'s No. 1 Kloss, NE SW, Sec. 3-4n-6w ..... Partly rigged up and S.D.

SCOTT COUNTY

Heavener O. & G. Co.'s No. 1 Riser, Sec. 36-4-26..... S.D.; T.D. 1,436 ft.
Waldron O. & G. Co.'s No. 1 White, NE cor. SW NW, Sec. 17-3n-29 ..... S.D. 1,860 ft.

SEVIER COUNTY

Tristate Oil Co.'s No. 1 Grimble, Sec. 34-8-22, S½ SW... S.D. 950 ft.

UNION COUNTY

Drillers Oil & Dev. Co.'s No. 1 Pickering, 220 ft. N, 668 ft. E, SW cor. NW NE, Sec. 1-17-16..... W.O.S.R. 2,134 ft. (corrected).
H. H. Helms' No. 1 C. H. Murphy, NE cor. NW NE, Sec. 31-16-14 ..... Drlg. shale 2,000 ft.
L. M. Hill et al's No. 1 J. W. Barnes, Sec. 21-19-16, NE cor. Sec. ..... Derrick.
Sunby et al's No. 2 Perdue, Sec. 33-16-14, 75 ft. S, 150 ft. E, NW cor. Sec. ..... W.O. 3,247 ft.

Wilson & Chapman's No. 1 King, Sec. 3-18-13, 330 ft. N and E, SW cor. NE NE ..... Derrick.
Wilson & Chapman's No. 1 K. D. Parker, Sec. 3-18-13, 330 ft. N and E, SW cor. S½ NE SE ..... Derrick.

WASHINGTON COUNTY
(Cable tools)

C. H. Willoughby's No. 1 Jones, Sec. 34-16-30..... S.D. for funds 1,795 ft.

YELL COUNTY
(Cable tools)

Tegmeir & Luckett's No. 1 Falcon, Sec. 36-7-21..... S.D. 5,710 ft.

EAST TEXAS
BOWIE COUNTY

Logan & Elliott's No. 1 Smith, 9,600 ft. S, 2,500 ft. W, NE cor. Chas. Lewis Sur. ..... S.D. 4,505 ft.
Tarkington & Jones' No. 1 W. W. Whybark, 200 ft. S, 200 ft. W, SW cor. J. H. Dyer Sur. ..... S.D. 1,880 ft.
Lee Timberlake et al's No. 2 Tidwell, 2,510 ft. N, 655 ft. W, SE cor. T. M. Rice Sur. ..... S.D. 3,000 ft.

CAMP COUNTY

McDonald Bros.' No. 1 Tillery, 150 ft. E, 450 ft. S, NW cor. 127-ac. tr. in J. H. Murphy Sur. ..... Abd. 3,000 ft.

CASS COUNTY

J. F. Morrisey's No. 1 T. J. Wilson, 1,088 ft. S of N line, 2,376 ft. E of W line of H.R.S., J. R. McFarland Sur. ..... S.D. 3,670 ft.
Davis & Pigg's No. 1 Roy Bryan, SW cor. Roy Bryan 88-ac. tr., Albert H. Latimer Sur. ..... S.D. 2,860 ft.
William S. King's No. 1 D. W. McDonald, Martha Ingram Sur., 688 ft. W, 1,343 ft. N, SE cor. Lot 5, McDonald 61-ac. tr. ..... Rigging up.
C. E. Murdock's No. 1 First National Bank, Evans Watson Sur. ..... S.D. 4,390 ft.
John C. Rogers' No. 1 I. E. Lanier, 573 ft. N, 879 ft. W, SE cor. Lanier 86 ac. in K. E. Welborn Sur. ..... S.D. 2,280 ft.
Olds & King's No. 2 Anthony, John C. Byers Sur. ..... S.D. 1,750 ft.
John C. Rogers et al's No. 1 W. Q. Henderson, 3,100 ft. S, 3,100 ft. E, NW cor., Wm. Davis Sur. ..... S.D. 955 ft.

HARRISON COUNTY

Lloyd Oil Corp.'s No. 1 E. S. Timmons, 150 ft. from N line to 250 ft. from E line of 105-ac. tr., Findley Sur. ..... S.D. 4,195 ft.
Ryan Cons. Pet. Corp.'s No. 1 J. M. Fuhr, 1,300 ft. N of NW cor. T. J. Copelin Sur., 1,675 ft. SW at right angles to NW SE line of O'Neal Sur. ..... Derrick.

MARION COUNTY

Geo. Hindeman et al's No. 1 F. V. Lindsey, 2,500 ft. S, most northerly N line, 3,555 ft. E most easterly W line, Alexander Albright Sur. ..... S.D. 2,380 ft.

PANOLA COUNTY

Hoffer et al's No. 1 Cameron Lbr. Co., center 1,306-ac. tr. in W. M. A. LaGrove Sur. ..... Derrick.
Moses & Wallace's No. 1 Daniel, 600 ft. N and W lines, Mrs. Gerrell 100-ac. tr., SW cor. Isabel Hanks Sur... Spudded and S.D.
G. A. Davidson's No. 1 Latham, Wm. Rich Sur. ..... S.D. 2,394 ft.
J. L. Nelson et al's No. 1 J. W. Williams, 300 ft. S, 700 ft. W, NE cor. Williams' 67-ac. tr. in James Hanks Sur. ..... S.D. 3,055 ft; lime and shale.
United Gas Public Service Co.'s No. 11 Werner, 1,162 ft. N, 2,418 ft. W, SE cor. D. B. Lewis Sur. ..... Plugged back to 3,650 ft. and testing at 3,665 ft.

RED RIVER COUNTY

D. M. Buffington's No. 1 Hossler, E. Hughhart Sur. .... S.D. 2,795 ft.
Johnson Pet. Co.'s No. 2 Randolph, Edw. Dean Sur. .... S.D. 2,280 ft.

SHELBY COUNTY

Chapperell Oil Co.'s No. 2 Holt, Matthew Moore Sur. ... S.D. 1,028 ft. (corrected).
Harry Elliott's No. 1 Pickering Lbr. Co., 1,000 ft. N, 150 ft. E, SW cor. 361-ac. tr., G. H. Patterson Sur.. Setting 6-in. 1,487 ft; T.D. 1,495 ft.
K. H. Francis' No. 1 John Mims, Mary Smith Sur. ..... S.D. 3,334 ft.
H. H. Gracey's No. 1 J. A. Morrison, 1,500 ft. N, 200 ft. E, SW cor. J. A. Morris' 109-ac. tr., Wm. English Sur. ..... S.D. 2,600 ft.
Henry Maulding's No. 1 Frost Lbr. Co., NE cor. Frost Lbr. Co.'s 80-ac. tr., A. D. Fountain Sur. ..... S.D. 3,246 ft.
McRoby et al's No. 1 Windham, Wm. Leach Sur., on Windham 296-ac. tr. ..... S.D. high wtr. 3,393 ft.
Ridgeway et al's No. 1 Polley, Dominguez Gonzales Sur., 3,180 ft. E of SW cor., 160 ft. N at right angles of Polley 457-ac. tr. ..... Set 8-in. 822 ft.
C. H. Tautenhahn's No. 1 J. C. Bogard, 300 ft. S, 900 ft. E, NW cor. J. C. Bogard's 52-ac. tr., Thomas Baker Sur. ..... S.D. 20 ft.
Tenant et al's No. 1 J. Henry, C. Z. Walker Sur. ..... S.D. 3,457 ft.
United North & South Prod. Co.'s No. 1 Windham, 800 ft. W, 1,050 ft. N, SE cor. of Windham 171.5-ac. tr. on A. H. English Sur. ..... Arranging to set 6-in. 3,415 ft; T.D. 3,422 ft.

LOUISIANA-ARKANSAS PROVEN AREAS

(Continued from Page 32)

O. A. Gautier et al's No. 1 Mischell, 330 ft. E, 150 ft. N, SW cor. SE NW, Sec. 30-8-12 ..... S.D; W.O. 2,599 ft.
Hawkins & Antoon's No. 1 Newton, Sec. 1-7-11 ..... W.O.S.R. 2,609 ft.
Hudson & Bird's No. 1 Walden, 480 ft. N, 300 ft. E, SW cor. SW NE, Sec. 26-8-11 ..... S.D. 2,454 ft.
Zeke Lohman's No. 1 McCormick, 660 ft. E, 330 ft. N, SW cor. NE SW, Sec. 2-7-11 ..... S.D. 1,606 ft.
Loring Oil Co.'s No. 15 Bowman-Hicks, 1,280 ft. S, 275 ft. E, NW cor. SW NW, Sec. 15-7-12 ..... Waiting on cmt. to set; T.D. 4,428 ft.
L. K. McGuffin's No. 1 Bush, NW cor. NW SE, Sec. 1-7-11 ..... Completed 100 bbls. 2,493 ft.
Ben Merritt, tr.'s No. 2 Byrd, Sec. 1-7-11 ..... S.D; W.O. 2,579 ft.
Ohio Oil Co.'s No. 11 Bowman-Hicks, Sec. 2-7-11, 330 ft. N, 990 ft. E, SW cor. NW ..... Dry and abd. 2,600 ft.
Ohio Oil Co.'s No. 14 Bowman-Hicks, Sec. 3-7-12, 330 ft. S and W, NE cor. NW SW ..... Rigging up.
Eddie Self's No. 3 Jacobs, Sec. 1-7-11, 150 ft. N and E, SW cor. SE SE ..... Set 10-in. 100 ft; drlg. 1,750 ft.

ARKANSAS
UNION COUNTY—EL DORADO

Ark. O. & G. Co.'s No. 4 Anderson, Sec. 31-17-15, 2,005 ft. S, 150 ft. W, NE cor. NW SW ..... Testing 2,190 ft.
Lion O. & R. Co.'s No. 9-A G. P. Hayes, 242 ft. S, 246 ft. W, NE cor. Lot 5, NE, Sec. 4-16-15 ..... S.D. high wtr.; 7,255 ft.
Southern Prod. Co.'s No. 1 Wingfield, NE cor. SE NW, Sec. 16-19-15 ..... S.D. 2,608 ft.

UNION COUNTY—URBANA

Marine Oil Co.'s No. 1 Winn est., 330 ft. S and E, NE cor. S½ NW, Sec. 11-18-13 ..... T.A. 3,586 ft.
Marine Oil Co.'s No. 2-E Thompson, 330 ft. N, 330 ft. E, SW cor. NE NE, Sec. 10-18-13 ..... Location.
Wilson & Chapman's No. 1-B Hadley, Sec. 3-18-13, 330 ft. S and W, NE cor. SE NW ..... Setting 6-in. 3,538 ft.

EAST TEXAS
PANOLA COUNTY

Daisy O. & G. Co.'s No. 1 Rucks, John Palmer Sur. .... S.D. 3,194 ft.
Nat. Gas Prod. Co.'s No. 3 Mays, 158 ft. S, 443 ft. W, NE cor. 42.5-ac. tr., Jane Thorpe Sur. ..... S.D. 3,038 ft; high wtr.
United Prod. Corp.'s No. 17 Steele, 1,320 ft. N, 660 ft. W, SE cor. C. D. Steele lse., in B. C. Jordan Sur. .. Location.

MISSISSIPPI
HINDS COUNTY

Ferguson-Fuller et al's No. 1 Cruse, Sec. 34-6n-1e, 420 ft. E, 170 ft. N, SW cor. NW ..... Derrick pattern.

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Tyler, Texas: Bell Building 209 N. College Street
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SYFO
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Love Pet. Co.'s No. 1 Interior Lbr. Co., Sec. 2-5n-1e, 90 ft. W, 270 ft. N, SE cor. SW ..... Derrick.

RANKIN COUNTY

Cummins & Montgomery's No. 1 Ivey, Sec. 13-5n-1e, NE Lot 10, Blk. D, E. Jackson Pl., First Addn. ... Derrick.
Meredith et al's No. 1 Strowder, Sec. 12-5n-1e, SE cor. SW NE ..... Derrick.

WILDCAT OPERATIONS IN MISSISSIPPI

HINDS COUNTY

Company, farm and location— Remarks:

Atkins et al's No. 1 Crane Lawrence, Sec. 23-6n-1e, 300 ft. E, 132 ft. N, SW cor. NE SE ..... Derrick.
Consumers O. & G. Co.'s No. 1 Interior Lbr. Co., 805 ft. E, 205 ft. N, SW cor., Sec. 1-5n-1e ..... Set 6-in. 2,405 ft.
Miss.-Minn. Oil Co.'s No. 1 Edwards Land Co., Sec. 23-6n-4w, 1,200 ft. N and E from center of Sec. ..... Derrick.
Ridgeway & McGehee, Inc.'s No. 1 Mosal, Sec. 24-6n-1e, 200 ft. N, 100 ft. E, SW cor. of E½ SW ..... Completed; estimated 25,000,000 ft. gas 2,460 ft.
Roell O. & G. Co.'s No. 1 Dreyfuss, 650 ft. N, 480 ft. W, SE cor. NE, Sec. 4-5n-1e ..... Drlg. plug 2,451 ft.
Southern Pet. Co.'s No. 1 Wilton (was Tri-State O. & G. Co.'s), 320 ft. E, 240 ft. N, SW cor. SE NE, Sec. 28-6-1e ..... Waiting orders 2,498 ft.
F. E. Stewart et al's No. 1 Miss. Cotton Seed Products Co., Sec. 4-5n-1e, 320 ft. S, 440 ft. W, NE cor. SE.. Derrick abd.

JASPER COUNTY

Bay Springs Pet. Co.'s No. 1 Keyes, C NW NE, Sec. 2-12-9 ..... S.D. for fuel 3,139 ft.

LOWNDES COUNTY

Lowndes County Oil & Dev. Co.'s No. 1 Carr est., Sec. 34-17-16e, 1,320 ft. E, 330 ft. S, NW cor. Sec. ..... Rig on location.

MONROE COUNTY

Amory Dev. Co.'s No. 1 Bourland, Sec. 2-13-19 ..... S.D. 3,015 ft.
McAlpine et al's No. 1 Cowart, second hole, Sec. 2-12-19. T.A. 3,793 ft.

NEWTON COUNTY

Bob Dalton's No. 1 Majure, 400 ft. N, 300 ft. E, SW cor. SE, Sec. 25-6n-11e ..... S.D. 840 ft.

NOXUBEE COUNTY

Thompson & Donohue's No. 1 Donohue, Sec. 25-16n-17e.. S.D. 1,735 ft.

RANKIN COUNTY

Attkisson & Dyer's No. 1 Valentour, 200 ft. S, 200 ft. E, NW cor., Sec. 18-5n-2e ..... Waiting on csg. 2,428 ft.
James Alexander, tr.'s No. 1 Taylor & Watkins, Sec. 1-5n-1e, 175 ft. N, 75 ft. W, SE cor. ..... Rigging up.
Hensles et al's No. 1 Tanner, Sec. 14-5n-1e, 400 ft. S, 200 ft. E, NW cor. NE NE ..... Derrick.
Majestic O. & G. Co.'s No. 1 Elton Lbr. Co., Sec. 10-4n-3e. Derrick.
Muse & Muse's No. 1 Cotton, Sec. 14-5n-1e, 1,320 ft. S, 200 ft. E, NW cor. NE NW ..... Derrick.

SCOTT COUNTY

M. U. Culley et al,s No. 1 Owens, Sec. 2-5-9 ..... Derrick.

SHARKEY COUNTY

United Gas Public Service Co.'s No. 1 Lenhart, Sec. 14-14n-6w, 660 ft. N of C of S line of Sec. ..... Moving in rig.

WARREN COUNTY

Eagle Bend O. & G. Co.'s No. 1 Kiger, SW cor. SW SE, Sec. 9-18-2 ..... S.D. 2,607 ft.

SOUTHWEST TEXAS PROVEN AREAS

(Continued from Page 35)

The Texas Company's No. 4 Gremmel ..... Making location.
The Texas Company's No. 5 Gremmel ..... Making location.

COOKSEY POOL—BEXAR COUNTY

Chiquita Oil Co.'s No. 3 Cooksey, 480 ft. from E line, 330 ft. from S line of tract in J. W. Rialis Sur. .. ..Location.

SALT FLATS POOL—CALDWELL COUNTY

Joe Bruner's No. 1 Malone, 150 ft. to N line, 750 ft. to W line of tr., A. Floyd Sur. ..... T.D. 2,704 ft.; drlg.
John Storey's No. 1 Dickerson, 150 ft. to N of center of S line of tract, John R. Rains Sur. ..... Rigging up.

WEST COLE POOL—DUVAL COUNTY

Cole Petroleum Co.'s No. 75 Benavides, 365 ft. from NE line, 150 ft. from NW line, Blk. 8, Sec. 18, Mariana Arispe grant ..... T.D. 1,650 ft.; drlg.

GOVERNMENT WELLS POOL—DUVAL COUNTY

Duval Oil Corp.'s No. 7 Bishop Cattle Co., 1,319 ft. to W line, 1,666 ft. to N line, Sur. No. 135 ..... T.D. 2,360 ft.; recomp. for 100 bbls. oil and 10,000,000 ft. gas.
Thomas & Tarver, Inc.'s No. 5 Bishop Cattle Co., 825 ft. to W line, 1,668 ft. to S line, Sur. No. 135 ..... Rigging up.

DARST CREEK POOL—GUADALUPE COUNTY

Humble Oil & Ref. Co.'s No. 3 Dan Denman, 385 ft. E, 150 ft. N of SW of 200-ac. tract in Wm. Arrington Sur. ..... T.D. 2,575 ft.; in Edwards; dry.

SLICK POOL—GOLIAD COUNTY

C. R. M. and H. H. Weinert's No. 1 Stopke, 660 ft. from S and W lines ..... T.D. 4,290 ft.; drlg.

RANDADO POOL—JIM HOGG COUNTY

O. W. Killam's No. 1 Hinnant, 150 ft. N of NE cor. of Sur. No. 84 in Sur. No. 614 ..... T.D. 1,300 ft.; drlg.

LUCAS POOL—LIVE OAK COUNTY

Houston Oil Co.'s No. 14 Cartwright, 1,000 ft. W of No. 23 Cartwright ..... T.D. 5,400 ft.; standing.
Houston Oil Co.'s No. 24 Cartwright, 784 ft. N of No. 4, J. M. Colchado Sur. ..... T.D. 5,327 ft.; set csg.

CHITTIM POOL—MAVERICK COUNTY

Texas Gas Utilities' No. 8 Chittim, 24 ft. S of No. 7 Chittim ..... T.D. 4,850 ft.; standing.

SAXET FIELD—NUECES COUNTY

Gulf Coast Oil Co.'s No. 1 Sagarin ..... T.D. 3,100 ft.; drlg.
Gulf Coast Oil Co.'s No. 1 Elder, NW of same company's No. 1 Harrell ..... T.D. 5,070 ft.; standing.
Gulf Coast Oil Co.'s No. 2 Sedwick, east offset to company's No. 1 Harrell ..... Making location.
Gulf Coast Oil Co.'s No. 3 Sedwick, east offset to Houston Oil Co.'s No. 1-B Maggie Harrell ..... Making location.
Neal, Milton & Kepley's No. 2 Roark ..... Making location.
Saxet Oil Co.'s No. 3 Donigan, north offset to Zoch's No. 1 Baldwin ..... Location.
Saxet Oil Co.'s No. 5 Well, 3,041 ft. to N line, 333 ft. to W line ..... Drlg. 2,495 ft.
Saxet Oil Co.'s No. 6 Dunn, 600 ft. S of No. 5 Dunn, 4 miles W from Corpus Christi ..... T.D. 4,304 ft.; rigging up to deepen.

LOS OLMOS POOL—STARR COUNTY

Jones & Watt's No. 1 Kelsey-Bass, 200 ft. to N and W lines of Sur. 7, Porcions 75, 76 and 77 ..... Rigging up.
Rio Oil & Gas Co.'s No. 1 Kelsey-Bass (formerly carried as Los Olmos Oil & Ref. Co.'s No. 1 Kelsey-Bass) ..... T.D. 910 ft.; drlg.
Rio Oil & Gas Co.'s No. 3 Kelsey-Bass, No. 6 Subd., Porciones 75, 76, 77 ..... Rigging up.
San Marcos Oil Co.'s No. 3 Ivey, 450 ft. W of No. 2 ..... T.D. 423 ft.; drlg.
Suttle & Rutherford's No. 1 Kelsey-Bass, Subd. No. 9, Porciones 75, 76, 77 ..... Rigging up.

CAROLINA-TEXAS POOL—WEBB COUNTY

Usher Carson's No. 4-D Webster, 150 ft. to S and W lines of NE quarter, Sur. 684 ..... T.D. 3,052 ft.; comp. 25 bbls.

WEST COLE POOL—WEBB COUNTY

Magnolia Pet. Co.'s No. 6 Benavides, 1,630 ft. to N line, 150 ft. to E line of Sur. No. 660 ..... T.D. 450 ft.; drlg.
French Oil Corp.'s No. 5 Benavides, 1,602 ft. from N line, 150 ft. from W line of Sur. 659 ..... T.D. 100 ft.; drlg.

ESCOBAS POOL—ZAPATA COUNTY

Allied Gas Co.'s No. 21 Gutierrez, 656 ft. to SW line, 500 ft. to SE line of Share 4, Fansler Partition of Comitas grant ..... T.D. 300 ft.; drlg.
F. M. Blair & Son's No. 1 Montemayor, 450 ft. to N, 150 ft. to E line of Blk. No. 1, Sur. No. 63 ..... Rigging.
Brogan & Belcher's No. 1 M. Garza, 150 ft. to NE and SE lines, Blk. 62, C. A. Couglas Subd. of Zorro Ranch, Comitas grant ..... Spudded in.
Daniels & Hill's No. 1 Montemayer, 150 ft. from S and W lines of Blk. 7, Sur. 54 ..... T.D. 1,484 ft.; flowed over crown block; shut in for storage.
F. H. Etheridge's No. 5 Bustamente, 1,540 ft. from NE line, 150 ft. from NW line of Sun 80-ac. lease, Share 35, Fansler's Partition, Comitas grant ..... Location.
F. H. Etheridge's No. 6 Bustamente, 150 ft. to SW line, 150 ft. to NW line of Sun's 80-acre lease, Share 35, Fansler Partition, Comitas grant ..... T.D. 1,473 ft.; comp. 100 bbls.
Grayburg Oil Co.'s No. 1 F. G. Martinez, 150 ft. from S and W lines of 240-ac. tract in E½ of Sur. 4 ..... T.D. 2,309 ft.; abnd.
O. W. Killam's No. 17 Bustamente, 260 ft. from SW line, 250 ft. from SE lines Share 5, Fansler Subd., Comitas grant ..... T.D. 1,310 ft.; comp. 25 bbls.
O. W. Killam's No. 18 Bustamente, Share 5, Fansler Partition, Comitas grant ..... T.D. 1,450 ft.; testing.
O. W. Killam's No. 3 Medina (Bustamente), 150 ft. to NW and NE lines, Share 34, Fansler Partition, Comitas grant ..... T.D. 1,455 ft.; set csg.
Norden & Morris' No. 3 De Los Santos, 150 ft. to NE and SE lines of Share 6, Fansler Partition of Comitas grant ..... Spudded in.
Pray & Chamberlain's No. 4 Garza, Blk. 1, Comitas grant ..... 1,348 ft.; comp. 30 bbls.
Trevino Oil Corp.'s No. 15-A Trevino, 150 ft. to S and W lines, Blk. 13, Sur. No. 412 ..... T.D. 1,200 ft.; drlg.
Winch & Billings' No. 1 Jose Bustamente, 150 ft. to NW and SW lines of Pal-Mar 31-ac. tract, Share 35, Fansler Partition, Comitas grant ..... T.D. 1,464 ft.; comp. 150 bbls.
Winch & Billings' No. 7 Jose Bustamente, 1,574 ft. from tract, Share 35, Fansler Partition, Comitas grant..... NE line, 150 ft. from NW line of 31-ac. Pal-Mar T.D. 1,469 ft.; comp. 100 bbls.
Winch & Billings' No. 8 Bustamente, 150 ft. to SW and SE lines of 31-ac. Pal-Mar tract, Share 35, Fansler Partition, Comitas grant ..... Location.

CHARCO-REDONDO POOL—ZAPATA COUNTY

Bob & Richey's No. 28 Martinez, 990 ft. from SW line, 615 ft. from SE line, Blk. 24, Duke Subd., Charco Redondo grant ..... Location.
Bob & Richey's No. 29 Martinez, 810 ft. from SW line, 360 ft. from SE line of Blk. 24, W. R. Duke Subd., Charco Redondo grant ..... Location.

MARTINEZ POOL—ZAPATA COUNTY

F. H. Etheridge's No. 2 Winch & Henne, 1,100 ft. to W line, 520 ft. to S line, Sur. No. 286 ..... Location.

WILDCAT OPERATIONS IN SOUTHWEST TEXAS

(Continued from Page 35)

W. A. Klecka's No. 1 W. W. Thornton, 500 ft. from N line, 1,058 ft. from E line of tract in R. Roberts Sur. ..... Location.
J. W. Riley's No. 1 W. S. Chaffin, in M. Griffin Sur..... T.D. 365 ft.; S.D.
Jas. Scroggins' No. 2 Warrick, Ingram Sur. ..... T.D. 1,432 ft.; S.D.

BEE COUNTY

Alexander et al's No. 1 McFall, 3 miles S Skidmore..... T.D. 2,100 ft.; standing.
Humble O. & R. Co.'s No. 1 Laura Thompson, 6,360 ft. from N line, 15,100 ft. from W line of tr. in Garrett Roache Sur., S part of county ..... T.D. 5,312 ft.; drlg.

BEXAR COUNTY

Amsden-Ingersoll-Miller's No. 1 Strumberg, 450 ft. to W line, 1,020 ft. to N line of tract, 12 miles SW of San Antonio ..... T.D. 470 ft.; setting 8...-in. csg.
Alamo Natural Gas Co.'s No. 2 Gembler, 1,000 ft. S of No. 1 in A. Manchaco Sur. No. 51 ..... T.D. 700 ft.; drlg.
J. E. Anderson's No. 1 Suburban Irrigated Farms, 500 ft. to N line, 600 ft. to E line of C. Logan Sur..... T.D. 1,773 ft.; S.D.
Eckert et al's No. 1 Edwards, 150 ft. to N and W lines of farm in Martinez Sur. ..... T.D. 110 ft.; resumed drlg.
Callahan Final Oil Co.'s No. 1 B. H. Buck, 900 ft. to E line, 3,200 ft. to S line of farm, in J. M. McGamley Sur. ..... T.D. 650 ft.; drlg.
Dr. Ewell Nell's No. 1 J. Watson, 500 ft. from W line, 1,700 ft. from S line of B. Martinez Sur. ..... T.D. 2,250 ft.; no report.
Jones & Voltz' No. 6 Bonkowsky ..... T.D. 650 ft.; drlg.
O. K. Oil Co.'s No. 1 Strum, 150 ft. S of N line, 150 ft. W of E line, John Grant Sur. ..... Drlg.
O. K. Oil Co.'s No. 2 Strum, 150 ft. from S line, 1,051 ft. W of E line, Juan Mantes Sur. ..... Drlg.
Schneider, Rees et al's No. 3 Claussen, 12 miles NE of San Antonio ..... T.D. 1,150 ft.; S.D.
W. R. Swearingen et al's No. 7 Halberdier, 150 ft. W of E line, 540 ft. S of N line, J. M. Perez Sur..... T.D. 800 ft.; drlg.
Tri-State Oil Co.'s No. 1 E. B. Carruth, 2,500 ft. from S line, 2,560 ft. from E line of tr. in F. Bolen Sur.... T.D. 780 ft.; dropped from reports
S. W. Blount's No. 1 S. A. Land Co., I. Perez Sur., 1,000 ft. to N line, 450 ft. to W line of tract ..... T.D. 520 ft.; S. D.
Van Duyn et al's No. 1 Bradden, 5,000 ft. N of Medina River, 350 ft. to E line of tract, 8 miles W of San Antonio ..... T.D. 785 ft.; drlg.

CALDWELL COUNTY

Cole & Moseley's No. 1 Pierce, 150 ft. to NW and SW lines of tract, Solomon Seal Sur. ..... Spudded in.
Meyer's No. 1 G. C. and W. Walker, Solomon Seal Sur... Moving in rig.
M. O. Rayor's No. 3 N. L. Dunlop, 350 ft. to NW line, 150 ft. to NE line of farm, Solomon Seal Sur. ..... T.D. 2,503 ft.; plugged back to Buda.
Charles H. Wagener's No. 1 Rodenberg..... Location.

DUVAL COUNTY

Frank Gravis et al's No. 2 Schallert, 425 ft. to E line, 150 ft. to S line of Blk. 10, Cain & Smith Subd. "A", Sur. No. 255 ..... T.D. 1,430 ft.; drlg.
O. W. Killam's No. 1 Sutherland, Sur. No. 7, 3,200 ft. to E line, 150 ft. to N line ..... T.D. 2,085 ft.; drlg.
O. W. Killam's No. 1 Peters, 150 ft. from E line, 450 ft. from N line of SE of Sur. No. 1 ..... Derrick.
Thomas & Tarver, Inc.'s No. 1 Wood-Welder, 500 ft. to N line, 4,320 ft. to W line of Sur. No. 102 ..... T.D. 2,305 ft.; abnd.
R. A. Thompson's No. 1 Parr, 2,640 ft to W line, 12,160 ft. to S line of San Andres grant ..... T.D. 1,390 ft.; drlg.
Vacuum Oil Co.'s No. 1 Duval Land Co., 260 ft. from S and E lines of Sur. 96 ..... T.D. 1,600 ft.; drlg.

FRIO COUNTY

A. H. Wray's No. 1 Roche, 230 ft. from N and W lines of NW SE Sec. 123, A. Hutzler Sur. ..... T.D. 3,680 ft.; drlg.

GUADALUPE COUNTY

Barnhill et al's No. 1 H. L. Hoffman, 450 ft. to N and W lines of farm, in John G. King Sur. ..... T.D. 850 ft.; S.D.
M. W. Eiser's No. 1 Wells, 2,790 ft. to W line, 150 ft. to S line of farm in Jose de la Baume Sur. ..... T.D. 3,363 ft.; dry and aband.

GOLIAD COUNTY

Camp & Stanolind's No. 3 Pettus, 2,438 ft. N, 74 deg. E of No. 2 ..... T.D. 4,492 ft.; drlg.
Plymouth Oil Co.'s No. 1 Parks, 5 miles NE Goliad..... T.D. 4,625 ft.; waiting on orders.
Neal et al's No. 1 J. M. Pettus, 10,700 ft. to S line, 2,500 ft. to E line of Pedro Trevino Sur. ..... T.D. 4,000 ft.; S.D.

GONZALES COUNTY

Crowder Oil Co.'s No. 1 Preston, 1,000 ft. from W line, 2,000 ft. from N line of W. W. Pace Sur. ..... Spudded in and S.D.
Johnson & Mattock's No. 1 J. James, 12 miles NE of Gonzales city, 900 varas from E line, 300 ft. from S line of tract in M. A. Williams Sur. ..... Location.

HIDALGO COUNTY

Barrett-Kanellos' No. 1 J. B. Brock, 7 miles W and N from Mission (on Monte Cristo road) ..... T.D. 875 ft.; drlg.
LaJoya Oil & Gas Co.'s No. 1 W. L. Hart, 6 miles W from Mission, north of San Fordyce ..... T.D. 1,600 ft.; drlg.
Dayle L. Smith's No. 1, 18 miles W from Edinburg ..... T.D. 4,026 ft.; standing, showing gas.
San Roman Oil Co.'s No. 1 J. T. Lomax, 7,500 ft. from S and E lines of San Roman Sur. ..... Location.
Dayle L. Smith's No. 3 Daskam, SW part of county..... Spudded in.

JIM HOGG COUNTY

L. W. Connor's No. 1 Holbien, 150 ft. from N and E lines of Blk. 7, Sur. 7, Holbien Subd. of Las Animas grant ..... T.D. 450 ft.; drlg.
R. F. Force's No. 1 Holbien, 150 ft. from N and W lines of Blk. 54, Sur. 9, Holbien Subd. of Las Animas grant ..... T.D. 2,462 ft.; drlg.
T. P. Morgan's No. 1 fee, 2,223 ft. to N line, 1,640 ft. to E line of Share 19, Palo Blanco grant ..... T.D. 620 ft.; S.D. to drill wtr. well.

JIM WELLS COUNTY

Gulf Prod. Co.'s No. 5 Shaeffer, SE cor. of Sur. No. 89... T.D. 2,457 ft.; gas blowout.
Vacuum Oil Co.'s No. 1 Seeligson, 4,500 ft. to W line, 75,000 ft. to S line of Los Jaboncillos Sur. ..... T.D. 2,900 ft.; drlg.

KARNES COUNTY

A. E. Edmiston's No. 1 O. L. Cochran, 150 ft. from S line, 500 ft. from E line of farm in D. B. McConnell Sur. ..... T.D. 1,625 ft.; drlg.
V. F. Neuhaus' No. 1 Della B. Tips, 1,050 ft. from SE line, 960 ft. from SW line of 1,037.5 ac., Carlos Martinez Sur., 5 miles SE of Kennedy ..... 2,780 ft.; drlg.

KENDALL COUNTY

Dixon Oil Co.'s No. 1 Ottmar Behr, 823 ft. from S and N lines of Jessie Wilson Sur., 3 miles S of Sisterdale ..... T.D. 2,708 ft.; standing.
Fred S. Dibble's No. 1 Ellebrach, Sur. 77, N part of county ..... T.D. 50 ft.; S.D.

KERR COUNTY

Evans & Gant's No. 1 E. Young, A. E. Burge Sur. No. 28. T.D. 1,312 ft.; standing.
Evans & Gant's No. 2 Love, 150 ft. S and W line of Sur. 1,593 ..... T.D. 5,849 ft.; pulling csg. to deepen.
Verde Oil & Gas Co.'s No. 1 J. D. Witt, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 1,923, Hamilton Sur., 4 miles S from Center Point. T.D. 200 ft. Carried to this depth and abandoned as Herber Oil Co.'s No. 1 J. D. Witt ..... Rigging up to deepen to 4,500 ft.

LA SALLE COUNTY

Buckley Ranch O. & G. Co.'s No. 1 Buckley, 200 ft. from S line, 330 ft. from W line of Sur. No. 37 ..... T.D. 5,205 ft.; abnd.

LIVE OAK COUNTY

J. A. Harper's No. 1 fee, 2,130 ft. to N line, 510 ft. to E line of farm, J. Pointevant Sur. No. 37 ..... Spudded in.
Henderson Coquat's No. 1 Hewitt ..... T.D. 1,785 ft.; S.D.
Texas Prod. Co.'s No. 1 Two Rivers Ranch, 3,700 ft. SW of NW cor. of Ely Jurdan Sur. and 43,000 ft. SE at right angles ..... T.D. 1,000 ft.; drlg.

LEE COUNTY

Henderson & Holden's No. 1 Dismuke, 600 ft. to E line, 150 ft. to N line of farm, J. Maxmilian Sur. ..... Rigging up.
A. H. Wheeler and associates' No. 1 fee, Blk. 47, H. Donohue Sur. ..... T.D. 3,890 ft.; S.D.
C. B. Polk et al's No. 1 Stoltz, Hiram Donohue Sur. ... T.D. 2,300 ft.; S.D.
Chadwick et al's No. 1 Hickey, 1,000 ft. to NW line, 300 ft. to NE line of farm in Varrelman Sur. ..... T.D. 20 ft.; spudded in.
Washington-Lee Oil Co.'s No. 1 L. Hicket, 1,100 ft. from N line, 200 ft. from E line of tract in J. D. Varrelman Sur. ..... Location.

McMULLEN COUNTY

Jacob, Buzzini & Pickett's No. 1 Brewer, 750 ft. NE of Pickett's No. 1 Nelson ..... Location.

MAVERICK COUNTY

I. N. Boicourt's No. 1 Bandera, School Land ..... T.D. 2,284 ft.; standing.

MEDINA COUNTY

Frank A. Brown's No. 1 Fohn, 150 ft. from E line, 790 ft. from N line of J. F. Torry Sur. No. 113 ..... T.D. 922 ft.; twisted off drill stem, fishing.
C. J. Webster Oil & Gas Co.'s No. 1 Adams, 2,450 ft. to N line, 160 ft. to E line of Jos. Hillemeyer's No. 25. T.D. 2,550 ft.; drlg.

MILAM COUNTY

H. W. Elliott's No. 1 Marek, 767 ft. from N line, 500 ft. from W line of 160-ac. tr. in B. Wickson Sur. ..... T.D. 1,456 ft.; S.D.
Nowlen's No. 1 Beard, 1,350 ft. from SE line, 450 ft. from SW line of farm, in J. F. Guthrie Sur., 4 miles S Thorndale ..... T.D. 2,036 ft.; S.D.
Red Bank Oil Co.'s No. 2-A J. A. Foster, 5,243 ft. to SW line, 150 ft. to NW line of farm ..... T.D. 4,927 ft.; drlg.

NUECES COUNTY

C. E. McCarthy's No. 1, W of Corpus Christi ..... Making location.
Southern Crude Oil Pur. Co.'s No. 1 Chas. B. Stratton, 1,650 ft. E line, 330 ft. S line of P. Sancho Sur..... T.D. 4,930 ft.; drlg.

REAL COUNTY

McGinley Corp.'s No. 1 Haby, C of SW, Sec. 175 ..... T.D. 2,530 ft.; S.D.

SAN PATRICIO COUNTY

John F. Camp's No. 1 Jackson, SW cor. of SW Sec. 30, 3 miles N from Edroy ..... Rigging up.

STARR COUNTY

Davenport et al's No. 1 Wells, 30 miles W of Mission... T.D. 830 ft.; drlg.
R. E. Johnson's No. 1 Goodrich, 1,214 ft. from N line 1,065 ft. from W line of tract, 1½ miles N of Rio Grande City ..... T.D. 831 ft.; standing.
Strauch Oil Corp.'s No. 1 M. E. Salinas, 155 ft. from N and W lines of lease in Porcion 30, Share 38 ..... Derrick.
R. B. Suttle's No. 1 Guerra, 2,000 ft. to N line, 270 ft. to W line of Porcion 110 ..... T.D. 810 ft.; drlg.
Jess Williams' No. 1 Welsh, 1,120 ft. to W line, 1,500 ft. to N line of tract in Pedernal grant ..... T.D. 425 ft.; set csg.

TRAVIS COUNTY

C. R. Franklin et al's No. 1 J. Wilson, 160 ft. from N and W lines of farm in A. Alexander Sur. ..... T.D. 1,180 ft.; S.D.
Fuchs et al's No. 1 Shiffler, 1,000 ft. to N line, 160 ft. to E line of farm, A. C. Caldwell Sur. ..... T.D. 515 ft.; drlg.
Ray & Henze's No. 1 Hatech, in C of tr. in S. Hamilton Sur. ..... T.D. 540 ft.; S.D.

VAL VERDE COUNTY

Kenneth B. Couch's No. 1 Y. P. Yoas, southeast part of county ..... Spudded in.

WEBB COUNTY

Harris, Hayes & Newton's No. 1 Laurel, 300 ft. from N and E lines of Blk. 5, Sur. 715 ..... T.D. 2,504 ft.; abnd.
O. W. Killam's No. 1 Bruni, 1,667 ft. to N line, 805 ft. to W line of Sur. No. 445 ..... T.D. 2,980 ft.; drlg.
O. W. Killam's No. 4 Bruni, 5,050 ft. to NE line, 7,675 ft. to SE line of El Ranchito tract, J. V. Borrego grant ..... Derrick.
Power & Dettenhalm's No. 1 Cowan & Goss, 1,370 ft. from W line, 1,656 ft. from N line of Sur. No. 1,606.. T.D. 255 ft.; standing.
Fansler, Johnson & Peacock's No. 1 Laurel, 425 ft. to N line, 600 ft. to E line of Blk. 10, Sur. 271 ..... T.D. 1,210 ft.; drlg.

WILLIAMSON COUNTY

Burns et al's No. 1 Wilder, 1,800 ft. to N line, 200 ft. to W line of tr. in H. Owens Sur. ..... T.D. 1,480 ft.; no report.
Hays & Gee's No. 1 E. G. Johnson, 1,800 ft. from N line, 170 ft. from E line of tr. in B. C. Low Sur., S of Georgetown ..... T.D. 1,595 ft.; S.D.
McLean's No. 1 R. C. Miller, 300 ft. from S line, 150 ft. from W line, of farm in Manlove Sur. ..... T.D. 1,765 ft.; S.D.
R. S. Wilson's No. 1 Speckles, 150 ft. N of road, 600 ft. from W line of farm in J. Jordan Sur., 1 mile N of Coupland ..... T.D. 875 ft.; S.D.

WILSON COUNTY

A. M. Blume's No. 1 Nickolson, C. Diaz Sur. ..... T.D. 1,600 ft.; S.D.

ZAPATA COUNTY

Ballard & Mercer's No. 1 Flores, 500 ft. from NE line, 550 ft. from SE line of Blk. 27, Porcion 37 ..... T.D. 1,593 ft.; drlg.
United North & South Development Co.'s No. 1 Guiterrez, 150 ft. from NE line, 488 ft. from NW line of Blk. 325 of E. M. Doty lease in Charco Redondo grant ..... 1,930 ft.; drlg.

ZAVALLA COUNTY

Carpenter & Jenkins et al's No. 1 John Wolf, Sec. 8, Abstract 1,199 ..... Drlg.

GULF COAST FIELDS AND WILDCATS

(Continued from Page 36)

Humble Oil & Ref. Co.'s No. 1 Hooks, James Hamilton Sur. No. 52, 904 ft. N of SW cor. along W line of lease and 396 ft. E at right angles ..... Oil sand 3,884-94 ft.; set 13⅛ ft. of 9⅝-in. screen; comp. flowing 600 bbls., 250 lbs. pressure, ⅝-in. choke.
Rio Bravo Oil Co.'s No. 10-A Settegast (W.O.), Jos. Kopman Sur. No. 44, 1,200 ft. S and 350 ft. W of NE cor. of lease ..... Put on pump 4,528 ft.; no gauge.
Rio Bravo Oil Co.'s No. 18-A Settegast, J. Kopman Sur. (W.O.) ..... Abnd. 6,175 ft.
Rio Bravo Oil Co.'s No. 23-A Settegast, Jos. Kopman Sur. No. 44, 1,375 ft. S and 200 ft. W of NE cor. "A" lease ..... Derrick.
Southern Petroleum Corp.'s No. 1 Gulf Fee (D.D.), 224 ft. from E line and 27 ft. from S line of Lot 36, W. J. Jones Subd., B.B.B.&C. Sur. No. 1,028..... Set 66 ft. of 4½-in. screen 4,396 ft.; comp. flowing 450 bbls. fluid, 50 per cent oil, 130 lbs. pressure, ⅝-in. choke; water believed from another sand.

RABB'S RIDGE—FORT BEND COUNTY

Cullen & West and Gulf Prod. Co.'s No. 3 George, John Rabb Sur., 1,000 ft. due E of No. 2 ..... Drlg. gumbo and lime 1,636 ft.
Cullen & West and Gulf Prod. Co.'s No. 1-A Lockwood & Sharp (D.D.), John Rabb Sur. ..... Standing 4,807 ft.
Cullen & West and Gulf Prod. Co.'s No. 4-A Lockwood Sharp, J. Rabb Sur., 550 ft. W of No. 2-A ..... Derrick.
Cullen & West and Gulf Prod. Co.'s No. 1-B Lockwood & Sharp, John Rabb Sur, 300 ft. N and 300 ft. W of NW cor. of George tract ..... Blowing gas, mud and water 4,925 ft.
Gulf Prod. Co.'s No. 2 Mary D. Booth Meyers, J. Rabb Sur., 600 ft. E of No. 1 in center of tract ..... Drlg. shale and lime 4,086 ft.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 20 Cade, N. Fitzsimmons Sur., 161 ft. W of No. 15 and 146 ft. SW of No. 17 ..... Shut down 60 ft.
Yount Lee Oil Co.'s No. 24 Cade, 1,010 ft. from NE line and 1,250 ft. from NW line of N. Fitzsimmons Sur... Sticky shale 5,395 ft.
Yount Lee Oil Co.'s No. 25 Cade, N. Fitzsimmons Sur., 100 ft. due W of No. 23 ..... Drlg. shale and lime 5,070 ft.

DAMON MOUND—BRAZORIA COUNTY

Intercoastal Oil Co.'s No. 6 Wisdom (D.D.), A. Darst Sur., Blk. 51, 2,550 ft. from NE line and 1,150 ft. from NW line of 840-acre tract ..... Sand showing oil 3,600 ft.

NASH—BRAZORIA COUNTY

Harrison & Abercrombie's No. 15 Nash (D.D.), Thos. Alsbury League ..... No report.

ESPERSON—LIBERTY COUNTY

Cranfill-Reynolds Co.'s No. 4 Davis (D.D.), Kokernot Sur. ..... No report.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 128-A "B" ..... Derrick.
Rio Bravo Oil Co.'s No. 127-A "B" ..... Drlg. sandy shale 669 ft.

LOST LAKE—CHAMBERS COUNTY

Pure Oil Co.'s No. 14 Mayes, E. H. R. Wallis Sur., 650 ft. due E of No. 11 in line with No. 9 ..... Oil sand 1,831-73 ft.; cmtd. 9⅝-in. csg. 1,800 ft.; drlg. plug.

MARKHAM—MATAGORDA COUNTY

L. P. Smith et al's No. 1 Hudson, 750 ft. out of SE cor. Blk. 15, Henry Parker Sur. ..... Derrick.

MOSS BLUFF—LIBERTY AND CHAMBERS COUNTY

Manning Trust Co.'s No. 2 Sergent, Jas. McFaddin Sur. .. Cap rock 905 ft.; S.D.

REFUGIO—REFUGIO COUNTY

Larco Gas Co.'s No. 4 Strauch heirs, 150 ft. from N line and 150 ft. from W line, Lot 6, Blk. 2 ..... Topped sand showing oil 3,686 ft. cem. 6⅝-in. casing; standing.

SOUTH LOUISIANA FIELDS

IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Shell Petroleum Corp.'s No. 2 Heyd, 225 ft. out of NE cor. of Sec. 13-9s-7w ..... Rigging up.
Shell Petroleum Corp.'s No. 1 Fontenot, Sec. 7-9s-6w, 450 ft. due E No. 2 Heyd ..... Rigging up.

JENNINGS—ACADIA PARISH

Yount Lee Oil Co.'s No. 10 Housierre-Latrielle, 5,435 ft. E and 1,070 ft. N of SW cor., Sec. 47-9s-2w ..... Drlg. shale 3,550 ft.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 23 Watkins (W.O.), 2,495 ft. W and 132 ft. N of SE cor. Sec. 13-12s-10w ..... T.D. 2,844 ft.; set whipstock 2,573 ft.
Calcasieu Oil Co.'s No. 26 Watkins (W.O.), 1,199 ft. N and 1,843 ft. W of SE cor. of Sec. 13-12s-10w ..... Reset screen 3,008 ft.; comp. flowing 2,000 bbls. fluid, 30 per cent b.s. and water; went dead; standing.
Calcasieu Oil Co.'s No. 31 Watkins, 1,402 ft. W and 1,120 ft. N of SE cor. of Sec. 13-12s-10w ..... Losing returns 3,187 ft.
R. E. Seiss' No. 3 Vincent, 2,195 ft. S and 1,220 ft. W of NE cor. Sec. 30-12s-10w ..... Temp. abnd. 424 ft.
R. E. Seiss' No. 2 J. M. Vincent ..... Shut down 2,163 ft.
The Texas Company's No. 8-B State, 1,875 ft. N and 600 ft. E of SE cor. of Sec. 13-12s-10w in Sec. 9..... Drlg. 3,240 ft.
Union Sulphur Co.'s No. 1 Gulf land (Humble lease), 284 ft. N, 30 ft. W of SE cor. Sec. 11-12s-10w ..... Sand 3,140 ft.
Union Sulphur Co.'s No. 1 Gulf land (Pure Oil Co. lease), 1,420 ft. N, 400 ft. W of SE cor. Sec. 11-12s-10w ..... Drlg. 1,604 ft.
Yount Lee Oil Co.'s No. 44 State, 1,110 ft. N and 1,915 ft. W of SE cor. Sec. 13-12s-10w ..... Location.
Yount Lee Oil Co.'s No. 45 State, 1,220 ft. N and 810 ft. W of SE cor. Sec. 13-12s-10w ..... Location.

VINTON—CALCASIEU PARISH

Marrs McLean's No. 9 Gray (D.D.) ..... Salt 3,203-3,474 ft.; plugged back to 3,226 ft.; sidetracked 1,957 ft. to 2,150 ft.; set 21 ft. 4½-in. screen; bailed dry; to deepen.

PORT BARRE—ST. LANDRY PARISH

Gulf Refining Co.'s No. 1 Wilson & Cockran, Sec. 4-6s-5e, 100 ft. out of middle SW cor. 592-ac. tract.... Rig.

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STARKS—CALCASIEU PARISH

Gulf Refining Co.'s No. 29 Lutcher-Moore, Sec. 19-9s-12w. Rigging up to pump 1,134 ft.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 722 fee (W.O.), Sec. 29-9s-10w... Drlg. rock 5,440 ft.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 5 Sweet Lake (D.D.), Sec. 12-13s-8w... Sand showing oil 7,456 ft.; cmtd. 5-in. casing 7,416 ft.; drld. plug and set screen.

MISCELLANEOUS WILDCATS

TEXAS

AUSTIN COUNTY

Grant & Baker's No. 1 Chesley, W. C. White Sur., 150 ft. from NW line and 150 ft. from SW line of 26-acre tract (northeast of Raccoon Bend Field) ..... Derrick.

O'Hara Oil & Gas Co.'s No. 1 Neilous, J. C. Cummings Hacienda Sur., 650 ft. N of No. 1 Schroeder in 18-acre tract, north edge Mill Creek ..... Derrick.

Pomacal & Boletka's No. 1 Schebajsa, 329 ft. N, 78 deg. E of N cor. B. Dottery Sur., near center of SW line of S. F. Austin 4 League on west fork of Mill Creek.. Set 10-in. casing 120 ft.; standing.

BRAZORIA COUNTY

W. D. Southerland's No. 1 C. W. Chapman, 294 ft. from S line and 104 ft. from E line of Lot 2, Andrew Robinson Sur. ..... Standing 1,514 ft.

The Texas Company's No. 2 Belcher, Harvey N. Little Sur., 1,728 ft. southeasterly from N cor. of S half of Sur., along NE line and thence 123 ft. at right angles ..... Drlg. sticky shale 4,465 ft.

United Oil Syndicate's No. 2 Levitt, John Peske Sur., 75 ft. NW of No. 1 ..... Location.

BURLESON COUNTY

Marek & Son's No. 3 A. Marek, N. McFaddin Sur., 1,068 ft. N and 225 ft. W of SE cor. of tract ..... Standing 2,210 ft.

M. O. & T. Corp.'s No. 1 Rigers ..... Drlg. sandy shale and pyrites 1,985 ft.

FORT BEND COUNTY

Stone & Wyman's No. 1 Beard, H.&T.C. Sur. No. 1½, 1,150 ft. from NW line and 1,892 ft. from NE line ... Gumbo 975 ft.

GRIMES COUNTY

Barnett et al's No. 1 Dodd, Timothy Jones Sur., 280 ft. N Cobb & Rasmussen's No. 1 Dodd ..... Rig.

Rianjo Oil Co.'s No. 3 Cuthrell, Patrick B. O'Connor Sur., 150 ft. S, 10 degrees E of No. 2 ..... No report.

Stanolind Oil & Gas Co.'s No. 1 Mary Sullivan, A. Yeamens Sur., 998 ft. out of SE cor. of 742-acre tract.... Location.

HARRIS COUNTY

Givens & Daybault's No. 1 Lobit, David Middleton Sur., Blk. 19, Lobit Subd. ..... Hole heaved; T.D. 2,738 ft.

Hewitt & Shibe's No. 1 Dan Wise, W.C.R.R. Sur., Sec. 11, 100 ft. out of SE cor. 149.33-ac. tract ..... Drlg. shale 3,135 ft.

Louisiana Oil & Dev. Co.'s No. 1 J. W. Wilson, W. Ritchie Sur. ..... Shut down 420 ft.

Shubert & Alexander's No. 1 Herman Hale, 1,058 varas E of NW cor. R. A. Hanks Sur., thence 790 varas S and thence 70 varas W 74 deg. ..... Shut down 2,720 ft.

JASPER COUNTY

Hext Drlg. Co.'s No. 1 Flourney, B. F. Jones Sur., 600 ft. NW of Helmerich & Payne's No. 1 Flourney ..... Drlg. sandy shale 3,505 ft.

JEFFERSON COUNTY

Brown et al's No. 1 M. O. Todd, 200 varas S and 58 varas E of NW cor. of Wm. Carr Sur. ..... Derrick.

John I. Pipkin and Elam's No. 1 Broussard, McGaffey Sur., 800 ft. from S line in center E and W of 205-acre tract ..... Drlg. 1,700 ft.

Texas Gulf Sulphur Co.'s No. 4 Thomas, Fannett, Wm. H. Smith Sur., 1,500 ft. S and 350 ft. W of NE cor. tract ..... Sulphur test.

Texas Gulf Sulphur Co.'s No. 5 Thomas Fannett, Wm. Smith Sur., 1,950 ft. W, 1,600 ft. S of NE cor. of Thomas' 446-acre tract ..... Sulphur test.

Westbury Oil Co.'s No. 4 West, 450 ft. W and 4,210 ft. S of NE cor. of T. D. Yoakum Sur. ..... Shut down in gumbo 600 ft.

LIBERTY COUNTY

Hamm et al's No. 1 Harvard, Davis Hill ..... Gumbo 1,015 ft.; shut down.

J. T. May et al's No. 1 Dunman, J. C. Martin League.... Location.

MATAGORDA COUNTY

United North & South Oil Co.'s No. 1 Stoddard, J. C. Keller Sur., 150 ft. W and 545 ft. N of SE cor. Blk. 53, Buckeye townsite ..... Drlg. sticky shale 7,018 ft.

MONTGOMERY COUNTY

Herman Heep et al's No. 1 Cartwright, 2,851.6 ft. southerly along W line from NW cor. of John O. Davis Sur. and thence 450 ft. E from said line..... Derrick.

Pevehouse Oil Co.'s No. 1 Sealey, Jas. Pevehouse Sur., 1,575 ft. N of N line of Horton & Woodson's 1,562-acre tract and 2,226 ft. E of W line of H.&W. 1,870-acre tract ..... Drlg. shale 2,935 ft.

NEWTON COUNTY

R. T. Briscoe et al's No. 1 Joe Inman, approx. 1,900 ft. E and 500 ft. N of SW cor. of J. M. Scott Sur. ..... Junked and abnd. 1,300 ft.

R. T. Briscoe et al's No. 1-A Joe Inman, 1,950 ft. E and 500 ft. N of SW cor. J. M. Scott Sur. ..... Rig.

ORANGE COUNTY

Altex Oil Co.'s (Veteran Oil Co.) No. 1 Reed, A. Nelson Sur. No. 1, 500 ft. from N line and 250 ft. from E line of tract ..... T.D. 4,063 ft.; sidetracking 3,200 ft.

Crew Oil Co.'s No. 1-A Mansfield, 50 ft. E of No. 1 ..... Drlg. rock 2,283 ft.

POLK COUNTY

Freeman et al's No. 2 Freeman ..... Shut down 3,162 ft.

T. B. Hoffer's No. 1 Saner-Ragly Lbr. Co., 300 ft. out of most northerly cor. of most easterly County School Land Abst. 271 ..... Shut down 1,517 ft.

REFUGIO COUNTY

Blanco Creek Oil Co.'s No. 1 Damaan, 150 ft. from N line and 150 ft. from W line of Blk. 14, Bonnie View Ranch Subd. ..... Shut down 4,627 ft.

J. C. Dixon's No. 1 Peck, 450 ft. S, 150 ft. E of NW cor. of S half of Sec. 24, Bonnie View Ranch Subd., Estaban Lopez Sur. ..... Cem. 12½-in. casing 100 ft. standing.

Humble Oil & Ref. Co.'s No. 2 O'Connor, John Keating Sur., 933 ft. N, 20 deg. E of No. 1 ..... Derrick.

SAN JACINTO COUNTY

E. P. Edwards' No. 1 J. R. Bennett, Cold Springs ..... Shut down 750 ft.

TRINITY COUNTY

Scientific Producers Co.'s No. 1 Thompson, I.&G.N. Sur. No. 47, 50 ft. out of NE cor. of E. K. Thompson 199-acre tract ..... S.D. 1,191 ft.

TYLER COUNTY

King Oil Co.'s No. 1 Caswell ..... Sand and shale showing oil 1,251 ft.; cem. 6-in. casing 1,218 ft standing.

Allied Pet. Co.'s (Texas Southern Pet. Co.) No. 3 Wilson, Mrs. E. Cherry Sur. No. 798, 1,500 varas from W line and 600 varas from N line ..... Shut down 5,025 ft.

VICTORIA COUNTY

Bunte et al's No. 1 Keeran, 3,714 ft. NE along railroad from SW line of Martin DeLeon Sur., and thence 1,600 ft. NW at right angles ..... Sand showing oil 5,182-91 ft.; drill stem test showed 750 lbs. gas pressure, ¼-in. choke; cmtd. 6⅝-in. csg. 5,180 ft.; drlg. plug.

WALKER COUNTY

Hart Oil Co.'s No. 1 Thompson Lbr. Co., Jose Ortega Sur., 1,265 ft. S, 1,876 ft. W of SW cor. of J. B. Gibson's 71-acre tract ..... Shut down 1,886 ft.

WALLER COUNTY

McDaniel and associates' No. 1 Citizens State Bank, B.B.B.&C. Sur., C of 150-acre tract ..... No report.

SOUTH LOUISIANA

ASCENSION PARISH

McElroy Pet. Co.'s No. 2 Lacey, 150 ft. S, 150 ft. W of NE cor. of Sec. 29-10s-4e ..... Shut down 4,515 ft.

CALCASIEU PARISH

Crawford Doyle's No. 1 Johnson, Sec. 23-9s-13w ..... Shut down 875 ft.

I. O. Davis' No. 1 Industrial, Sec. 29-9s-10w ..... Standing 6,568 ft.

Hill Oil Co.'s No. 1 W. S. Vincent et al, 642 ft. W, 75 ft. N from SE cor. Sec. 25-10s-10w ..... Rigging up.

Wilfred Lahay's No. 1 Jardell, Sec. 16-10s-12w ..... Shut down 3,650 ft.

Success Oil Co.'s No. 1 Hewitt, 90 ft. out of SW cor., Sec. 11-9s-11w ..... Rig.

CAMERON PARISH

R. A. Moore's No. 1 fee, 500 ft. W and 50 ft. S of NE cor. SE of Sec. 18-12s-12w ..... Derrick.

EVANGELINE PARISH

Emile LeDeau's No. 1 Vidrine, 260 ft. W and 350 ft. S of NE cor. of Sec. 47-3s-2e ..... Rig.

IBERIA PARISH

Jefferson Lake Oil Co.'s No. 26 Lake Peigneur, Sec. 58-12s-5e, 950 ft. N, 73 deg. 6 min. W of No. 8 ..... Abnd. sulphur test.

Jefferson Lake Oil Co.'s No. 27 Lake Peigneur, Sec. 58-12s-5e, midway between Nos. 24 and 25 ..... Sulphur test.

IBERVILLE PARISH

Standard Oil Co.'s No. 2 Myrtle Grove-Wilbert, Bayou Choctaw, 2,040 ft. N and 600 ft. W of C of Sec. 52-9s-11e ..... Drlg. 700 ft.

Standard Oil Co.'s No. 2 Gay, Bayou Choctaw, 4,500 ft. N and 600 ft. E of SW cor. SE of Sec. 52-9s-11e ... Drlg. 4,205 ft.

Standard Oil Co.'s No. 7 Schwing, Bayou Blue, 1,359 ft. N and 1,856 ft. E of C of Sec. 74-9s-10w ..... Sand 2,544-60 ft.; drill stem test showed salt water; drlg. deeper.

LA FOURCHE PARISH

State Prod. Co.'s No. 1-B Stark, 1,921 ft. E and 1,540 ft. S of NW cor. of Sec. 71-15s-15e ..... Abnd. sulphur test.

State Prod. Co.'s No. 1-C Stark, 210 ft. S and 140 ft. E of NW cor. of Sec. 71-15s-15e ..... Sulphur test.

Pop Oil Co.'s No. 1 Esponge Vizier, Sec. 26-21s-22e, 78 ft. N, 289 ft. E of The Texas Company's No. 4 L.L.&E. ..... Derrick.

The Texas Company's No. 4 L.L.&E., Leesville, Sec. 26-21s-22e ..... Rigging up.

PLAQUEMINES PARISH

Humble Oil & Ref. Co.'s No. 5 Cockrell-Moran, Lake Grand Ecaille, 10,377 ft. N and 2,614 ft. W of NE cor. of Twp. 21s-26e ..... Location.

Humble Oil & Ref. Co.'s No. 7 Cockrell-Moran, Sec. 14-20s-26e, 400 ft. S of No. 4 ..... Drlg. sticky shale 748 ft.

POINTE COUPEE PARISH

Grand Bay Oil & Gas Co.'s No. 1 Moniotte, 10,140 ft. S and 13,450 ft. E of NW cor. Twp. 5s-11e in Sec. 94... Shut down 310 ft.

TERREBONNE PARISH

La. Gas & Fuel Co.'s No. 2 Minor, 3,480 ft. S and 1,980 ft. E of NW cor. Sec. 3-18s-16e ..... Drlg. 4,200 ft.

The Texas Company's No. 5 State, Dog Lake, 2,270 ft. S and 450 ft. E of NW cor. of Sec. 5-22s-16e ..... Location.

The Texas Company's No. 4 La.L.&E., Bay Junop ..... Location.

The Texas Company's No. 8 State, Lake Pelto, 1,505 ft. N and 1,539 ft. W of SE cor. of Sec. 8-23s-18e ..... Cap rock 1,683-94 ft.; cmtd. 9⅝-in. csg. 1,685 ft.

The Texas Company's No. 10 State, Lake Barre ..... Location.

The Texas Company's No. 12 State, Lake Barre ..... Location.

The Texas Company's No. 14 State, Lake Barre ..... Location.

The Texas Company's No. 1 La.L.&E., Lake Barre, 2,645 ft. S and 596 ft. E of NW cor. Sec. 30-21s-20e ..... Hole cleaned to deepen 3,722 ft.

VERMILLION PARISH

Pure Oil Co.'s No. 2 Alliance Trust Co., Gueydan, 1,875 ft. E and 950 ft. S of NW cor. of Sec. 34-11s-1w Drlg. sandy shale 2,174 ft.

WEST FELICIANA PARISH

Putnam Syndicate's No. 3 Como Plantation, Sec. 51-1s-4w. No report.

WILDCAT OPERATIONS IN OKLAHOMA

(Continued from Page 29)

OKLAHOMA COUNTY

Citizens Oil Co.'s No. 1 Sage Barber, NE cor. Sec. 21-11-3w ..... S.D. 1,200 ft.

L. C. Hivick's No. 1 Sunset Addition, NW SW NW, Sec. 17-11-3w ..... S.D. 5,515 ft.

PAWNEE COUNTY

Rookstool's No. 1 Wylie, NW NE SW, Sec. 6-20-5 ..... S.D. 1,950 ft.

PITTSBURG COUNTY

Tape Oil Co.'s No. 1 Fulton, SE, Sec. 34-7-14 ..... S.D. 1,200 ft.

J. Morrison's No. 1 Fowler, NE SE, Sec. 13-7-17 ..... Rig.

C. Kennedy's No. 1 Travis, C SW NE, Sec. 15-7-14 ..... Rig.

C. Canady's No. 1 Jones, NW cor. Sec. 14-8-14 ..... Rig.

ROGER MILLS COUNTY

Ute Oil Co.'s No. 1 Williams, C SW, Sec. 23-12-24w..... C.O. 5,150 ft.

L. C. Hivick's No. 1 Davis, C NW NE, Sec. 4-11-26w..... S.D. 3,375 ft.

WASHITA COUNTY

Miley Pet. Co.'s No. 1 Wolfe, NE SW, Sec. 23-9-17w..... Rig.

Cooper & Terhune's No. 1 Blocker, NW cor., Sec. 29-8-19w ..... Drlg. 2,740 ft.; show oil 2,459-67 ft.; S.D. 2,757 ft.

Burns & Prince's No. 1 Deck, SW cor. Sec. 21-8-18 ..... S.D. 1,265 ft.

OKLAHOMA PANHANDLE

TEXAS COUNTY

Three Way Oil Co.'s No. 1 Crane, SW NW, Sec. 11-1-1E. T.D. 4,720 ft.; to cement.

SOUTHERN OKLAHOMA

ATOKA COUNTY

Morris et al's No. 1 Mansell, SW NW NW, Sec. 9-2s-12.. S.D. 285 ft.

Brookshire's No. 1 R. W. Rowland, NW NE SE, Sec. 18-3s-10 ..... Drlg. 1,670 ft.

BRYAN COUNTY

Bryan County Oil's No. 1 Childs, NW SE SW, Sec. 7-7-10. T.D. 650 ft.

Bush et al's No. 1 Commerce Trust, NE cor. Sec. 35-6s-9 ..... T.D. 740 ft.; plugged back to 450-80 ft.

Whalem et al's No. 1 Mason, NW SE SW, Sec. 24-6s-9... Drlg. 815 ft.

CARTER COUNTY

Lundy's No. 1 Spraggins, C NE NW SW, Sec. 8-1s-2w.. Drlg. 20 ft.

JEFFERSON COUNTY

Smith's No. 1 McCarty, SE NW NE, Sec. 13-4s-8w ..... Location.

LOVE COUNTY

Autry et al's No. 2 Cross, CWL SE NE Sec. 27-6s-2 .... Show oil and gas 970-72 ft. and 1,324-34 ft.; S.D. 1,651 ft.

Schemerhorn et al's No. 1 Bourland, NE NW SW, Sec. 1-6s-1 ..... Drlg. 852 ft.

MARSHALL COUNTY

Everette et al's No. 1 Agres, SE NE, Sec. 14-7s-6 ..... S.D. 1,170 ft

Newman et al's No. 1 Henry, NW cor. Sec. 22-7s-6..... Rig.

McCURTAIN COUNTY

Prassell et al's No. 1 Wagoner, SE NE, Sec. 5-8s-27 .... S.D. 150 ft.

Stampfs et al's No. 1 Harris, SW NW SW, Sec. 14-9s-25.. Drlg. 2,200 ft.

Stewart's No. 1 Patterson, C SE SE, Sec. 7-6s-24..... U.R. 800 ft.

PUSHMATAHA COUNTY

Whitehead et al's No. 1 Messer, SE SW SW, Sec. 35-3s-18 ..... S.D. 575 ft.

STEPHENS COUNTY

Dameron & Brock's No. 1 Dameron, SE SW NE Sec. 11-3s-6w ..... Drlg. 243 ft.

Brown's No. 1 Hightower, SW SE NE, Sec. 15-3s-5w..... Sand 990-1,004 ft.; S.O.; S.D.

George's No. 1 Ryan, NW SW NE, Sec. 31-3-15 ..... S.D. 120 ft.

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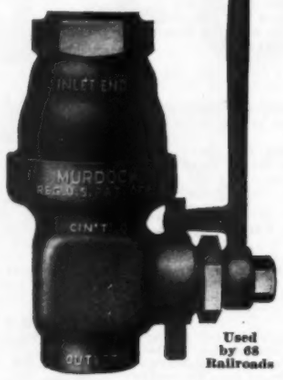

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28-40 Penn Avenue Pittsburgh, Pa.

FULTON Back-Pressure REGULATORS

GULF COAST FIELDS

(Continued from Page 38)

drilled to a 3,200-foot level. Two additional locations are reported being made on the northwest side of the dome. Interest has been centered on the possibilities of major production at Markham since the opening last summer of a prolific sand on the northeast flank.

Raccoon Bend

Among other new locations on the coast is one for a test northeast of the Raccoon Bend Field, Austin County. This test, for which derrick already is up, is Grant & Baker's No. 1 A. A. Chesley and it will mark the first drilling in that area in over a year.

High Island

At High Island, Galveston County, Yount Lee Oil Co. completed its No. 24 Cade flowing 1,700 bbls. of fluid, 85 per cent water, from a sandy shale at a total depth of 5,487 feet.

KANSAS FIELDS

(Continued from Page 30)

Ellsworth Arch has been active not only from a development standpoint but in surveys with seismograph instruments. It is said that all the available land along the flanks of the arch is under lease.

Pipe line companies were notified about 10 days ago by the Kansas Public Service Commission, that they would be required to file tariff schedules on intrastate rates. One of the commissioners said that if the rates were found to be unreasonable a hearing will be called at which adjustments will be discussed. The State has a law requiring all pipe line companies to file pipe line schedules with the Public Service Commission. The commissioners stated that they did not know that any of the rates are unreasonable.

Recent Field Developments

A production test was made of the discovery well in the southeastern part of Barton County to determine the potential. The well is Hilligoss and others' No. 1 Isern, SW cor. SE NE, Section 12-20-11w, which pumped 1,023 bbls. in 24 hours on a 54-inch stroke through 2½-inch tubing. At the conclusion of the test the oil was standing far up the hole and began to flow. It will be prorated to 15 per cent of the potential, or 150 bbls. a day. The well is producing from the Silicious lime at 3,289-3,326 feet.

Other developments in the area were: Derby Oil Co.'s No. 1 Berscheidt, NW cor. NE SE, Section 12-20-11w, Barton County, which is plugging back from a total depth of 3,342 feet, where it found water to 3,329 feet. At one time the well made 11 bbls. of oil an hour. Midwest Refining Co.'s No. 1 Berscheidt, C NW NE SE, Section 12-20-11w, was drilling out the cement plug. Magnolia Petroleum Co.'s No. 1 in the SW cor. NW, Section 7-20-10w, Rice County, was spudding.

Cowley County

Whittiker and others' No. 1 Hadley, SW cor. SE NW Section 19-34-3, is a machine. Wakefield and others' No. 1 Fent, NW cor. Lot 8, Block 40, Musgrove addition to city of Winfield, Section 22-32-4, has been deepened from 2,356 feet to Siliceous lime at 3,278-79 feet and completed for 450 bbls.

Greenwood County

McGinnis and others made location for No. 1 Burk, SW cor. NW Section 10-24-8. Syndicate Oil Co. and Phillips Petroleum Co.'s No. 3 Edwards, SE cor. NW NE Section 35-23-11, has been completed for 10 bbls. in sand at 1,866-84 feet. Ferrell & McCullough's No. 1 Nesbit, SW cor. Section 31-23-12, is dry and abandoned at 1,912 feet.

Jefferson County

Anderson and others' No. 1 Stiles, NE cor. Section 10-11-18, is dry and abandoned at 1,565 feet.

McPherson County

R. D. Alexander and others made location for No. 1 Hill, SE cor. Section 27-19-2w. Shawver and Shell Petroleum Corp.'s No. 1 Koehn, NE cor. SE Section 2-20-2w, is moving in. Slick, Pryor & Lockhart's No. 1 Stucky, SE cor. SW SW Section 27-20-3w, is rigging up to deepen from 3,045 feet. Darby Petroleum Corp. and others' No. 4 Kaegi, SE cor. NE NE Section 20-19-1w, swabbed 480 bbls. from Viola lime at 3,371-90 feet. Shawver and Shell Petroleum Corp.'s No. 2 Lively, SW cor. NW NW Section 21-19-1w, topped chat at 2,900 feet, drilled to 3,000 feet and has been shut in for an estimated amount of 100 bbls. Lario Oil Co. and Shell Petroleum Corp.'s No. 2 Miller, NW cor. SE Section 24-19-2w, has been completed for 1,029 bbls. in the Viola lime at 3,395-3,405 feet. Olsen Drilling Co. and Shell Petroleum Corp.'s No. 4 Koehn, SW cor. NE SW Section 36-19-2w, had topped Viola lime at 3,387 feet, total depth 3,397 feet, and pumped 90 bbls. in 18 hours.

Reno County

Jarvis & Wright made location for No. 1 Rainbow, NW cor. SE Section 33-22-7w. Shell Petroleum Corp. and Continental Oil Co.'s No. 1 Blake, SW cor. SE SE Section 23-23-4w, has been completed for 200 bbls. after deepening from 3,308½ to 3,378½ feet.

Rice County

Mid-Field Oil & Royalty Co.'s No. 1 Brown, NE cor. SW Section 10-21-6w, is dry and abandoned at 3,482 feet.

Sedgwick County

E. B. Shawver's No. 1 fee, SE cor. SW SE Section 18-27-2, has been completed for 25 bbls. in chat at 2,966-76 feet after drilling to sand at 3,263½-3,303 feet and then plugging back to 2,976 feet.

EASTERN FIELDS

(Continued from Page 42)

completed its second test on the William Newton heirs farm in Graham district. It is a lime sand gasser at a depth of 1,794 feet and may be regarded as a fair well for that district.

In Putnam County, J. V. Reishman completed a fair gas well on the William Dent farm in Scott district, a test well in that section. It was drilled in the Big Lime to a depth of 1,886 feet and is showing for in excess of 750,000 feet a day. In Wayne County a somewhat larger test was completed. There in Butler district, the Chartiers Oil Co. completed its test on the Freeland Thompson farm in the Corniferous lime at a depth of 3,791 feet. It is rated for 1,000,000 feet a day.

Drilling in West Virginia

In Roane County the deep test of the United Fuel Gas Co. on the J. W. Hinzman farm in Curtis district is in trouble with the tools stuck in the hole at a depth of 9,100 feet and fishing is in progress. In the same district, E. R. Lester and others are rigging up on the F. H. Bee farm and W. B. Heater has a rig standing on the T. C. Burdette farm. In Spencer district George Smith and others have rigged up on the C. A. Kendall farm and J. P. Young and others have a rig standing on the Dan Connally farm but have not started drilling. In Reedy district, the Heck Oil Co. has materials on the ground for No. 5 on the H. W. Allen farm.

In Calhoun County, F. F. McIntosh is shut down at 500 feet in No. 4 on the John Riddle farm in Lee district. In the same district, this operator has the material at hand for his No. 3 on the Fox and Morgan lease and has made a location for a test on the Carr Shaffer farm. In this district, Harley and Farrell and others are down 1,840 feet on the William H. Wood farm but have shut down with the tools in the hole. Ed Hess and others have set a drilling machine for another well on the John Evans farm. In Washington district, Holly Jarvis has reached 1,300 feet on the Hoke Jarvis farm, and has made a location on the L. H. Crookshank farm. In Center district, Creed Barker and others are drilling on the Hattie D. Hathaway farm and are down 1,950 feet. Walter H. Bickel has a rig standing for a second test on the George D. Starkey farm, Center district, and Godfrey L. Cabot is ready with a location on the Scott Umstead farm. In this district, W. Bickerstaff and others have reached 1,930 feet on the John W. Haddox farm. In Sheridan district, the Conservation Oil & Gas Co. has a rig standing for a second test on the James Kerby farm. In Sherman district, Poling

and Mollohan have started drilling on the Luther Little farm. In the same district A. H. and T. J. Jackson are fishing for tools at 830 feet in a third well on the T. J. Jackson farm.

Activity has resumed in Lincoln County. In Sheridan district, H. H. Dial has started drilling on the Claude Peyton farm and the Kanawha Gas & Utilities Co. has reached 1,480 feet on the Nona Johnson farm. In Carroll district the same company has made a location for a third well on the W. W. Carroll farm. In Union district the Hamlin Natural Gas Co. has reached 1,000 feet on the Roy and Hal Adkins farm. In the same district the Woodall Gas Co. is down 1,615 feet in a second well on the Charlie Honaker farm. In Jefferson district the Cambridge Gas Co. has a second test drilling at 1,765 feet on the A. M. Mullens farm and the United Fuel Gas Co. has reached 1,667 feet in No. 8 on the Courtney Land Co. lease.

In Pleasants County, Albert Neely & Co. are drilling on the A. G. Thorne farm in Union district and have reached 1,100 feet; and in the same section Charles Kerr is down 1,350 feet in another well on the Allen Holdren farm. In the same district G. W. Tice lost the tools at 1,200 feet on the Hugh Morris farm and will abandon the hole. In Jefferson district the White Oil Co. is drilling on the Lavina Dye heirs farm and is down 1,375 feet.

SOUTHWEST PENNSYLVANIA

In addition to a feature gas well completed in Southwest Pennsylvania during the past week there was one other very fair well completed. In Whitely Township, Greene County, the Equitable Gas Co. drilled its test well, completed last year on the Miranda Fox farm, deeper to 2,682 feet and in the Gantz sand. It is a very fair well from that formation showing for over 1,750,000 feet of gas a day. In this county and in Dunkard Township, the same company has reached 2,200 feet on the Lena Brewer farm. In the same township the Convex Glass Co. has a gas well in its test well on the E. Miller heirs farm at a depth of 2,470 feet. In Whitely Township the Equitable Gas Co. has spudded in and started drilling on the Ed Cowell farm.

In Allegheny County, Eph Morrow and others have reached 1,400 feet on the W. W. Martin farm in Richland Township. In Pine Township, Carey & Co. are testing the Snee sand on the James H. Kennedy farm.

CENTRAL WEST FIELDS

(Continued from Page 42)

and others report a 30 bbls. initial producer on the W. A. and Clyde R. Marshall farm, Section 5, Cambridge Township, in the Niagara lime formation from 3,340-73 feet.

In Belmont County, Somerset Township, A. C. Peters and others' No. 1 Allen Price farm, is a light gas well showing in the Berea sand from 1,900-20 feet. This farm is in Section 20.

In Carroll County, Orange Township, Collins, Stensill and others' test on the Thomas Leggett farm, Section 24, Orange Township, has a 3-bbl. initial producer from the Berea sand at 1,113 feet. Turner and others' test on the John H. Scott farm, Section 29, same township, is shut down at 1,222 feet. In London Township, same county, there are three drilling tests under way, Eaton and others' No. 1 Nelson States farm, and No. 1 Jennie Chase farm, and George W. Elliott and others' No. 1 H. G. Buchanan farm, same township. In Center Township, Lisbon Oil & Gas Co. is reported drilling No. 4 James M. Hanna farm.

In Meigs County, Clyde Cody is starting his No. 4 Charles Askley farm, Fractional Section 6, Carthage Township. Federal Oil & Gas Co. has moved a machine on the C. C. Snodgrass farm, Section 36, Orange Township. E. E. Martin and others shut down on the J. G. Miller farm, Section 3, Chester Township, at a depth of 1,650 feet. A. N. Bengel is drilling deeper his old No. 3 on the Avon Jones farm, Section 6.

In Medina County, Heines and others found a 3-bbl. pumper in No. 4 on the William M. Geisinger farm, Section 9, Chatham Township, at a depth of 500 feet.

INDIANA

An unusually good gas well has been brought in by the Wabash Public Service Corp. in No. 3 well, 715 feet from the south line and 210 feet from the east line of the Ralph Oynett farm, NE Section 22, Columbia Township, Gibson County, the well showing 5,000,000 feet. Knox Engineering Co. is drilling No. 1 Carl C. Steele farm, NE NE Section 22, same township.

H. A. Moore and others' No. 3 well, 300 feet from the south line and 1,500 feet from the east line of the Harley Vraig farm, NW Section 20, Washington Township, Pike County, shows a volume of 1,000,000 feet at 1,117 feet. Charles C. Talliaferro, Jr.'s No. 6 in the northwest corner of the Aaron George farm, NW Section 20, same township, shows a volume of 1,200,000 feet at 1,101 feet.

F. C. Bakes and others have a light gas well in No. 1 Lawrence Cooper farm, SW Section 16, Craig Township, Switzerland County.

In Hendricks County, the French Development Co.'s test on the T. A. Reitzel farm, NW Section 8, Liberty Township, drilled through the Trenton at a depth of 2,000 feet, found nothing and stopped the drill in the St. Peter formation.

ILLINOIS

Illinois livened up some with a few completions, the most important being a wildcat drilled by the Bond County Oil & Gas Co. in the northeast corner of the R. Snell farm, Section 29, Lagrange County, which developed 1,500,000 feet of gas at a depth of 941 feet. Another wildcat which failed to find anything worth while was drilled by Stewart Dewitt and others in the southwest corner of the John King farm, Section 9, Irving Township, Montgomery County. It was dry at 975 feet.

The Big Four Oil & Gas Co.'s No. 36 on the E. J. Seed farm, Section 22, Dennison Township, Lawrence County, was dry at a total depth of 2,330 feet. In Petty Township, same county, the Ohio Oil Co. abandoned No. 2 Dora A. Hipshire farm, NE Section 24; Nos 4, 8 and 10 William Applegate, NE Section 18; No. 3 L. B. Nuttall, SW Section 25; No. 7 S. S. Updike, SE Section 25; Nos. 9, 11 and 12 Oris Pepple, NW Section 12; Nos. 7 and 8 J. F. Klinler, SW same section, and No. 41 on the H. C. Thorn farm, NE Section 17, Bridgeport Township.

In the Robinson Field, Prairie Township, Crawford County, the O. R. Oil & Gas Co.'s No. 8 on the William Akeman farm No. 2, NE Section 2, pumped but 1 bbl. initial at 990 feet, and Watson and others' No. 3 L. E. Wilbert farm, SE Section 13, same township, produced 2 bbls. at 987 feet. W. C. McBride, Inc., is drilling on the Ahas Ross farm, Section 4, Montgomery Township, same county.

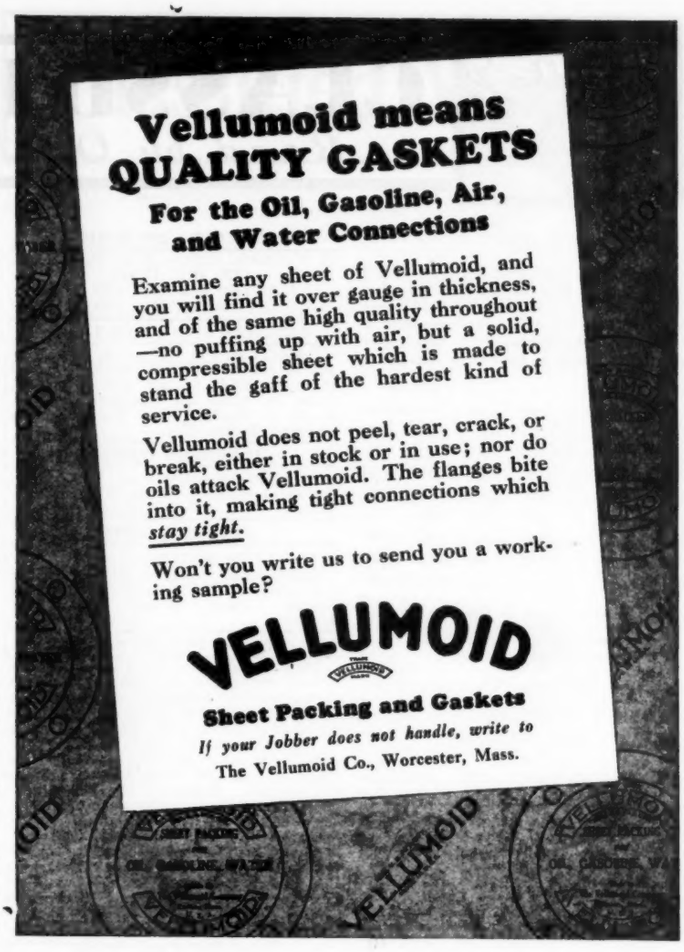
KENTUCKY

In Daviess County, the Whitmer Oil Co.'s test on the A. James farm, near Pleasant Ridge, produced an initial of 7 bbls. S. H. Russell and others' No. 1 Tom Clark farm, near Station 5, pumped 5 bbls. in 24 hours. Young & Hupp drilled a dry hole in a second test on the William Salmon farm, in the Red Hill Pool. Boles and Anthony found one of the same kind in No. 2 on the Louis May farm, same pool, and in the same area, Young & Boles found a duster in No. 3 Tom Riddle farm.

In Hancock County, Doug Bolling and others' test on the Doctor Burke farm, in the Pellville Field, was a dry hole at 300 feet.

In Ohio County, the Chester Oil Co.'s No. 1 on the Will Griffith farm in the Friendship Pool, produced 8 bbls. initially.

McLean County had one completion being S. A. Cobb and others' No. 2 L. E. King farm, in Barrett Hill Pool. It had a 12-bbl. output the first 24 hours. Miller, Dameron and others' No. 4 on the Joe Yeiser farm, in the same pool, shows for a 5-bbl. pumper in the lower Jett sand, but may be drilled to the Barlow sand, in hopes of increasing its production.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ROCKY MOUNTAIN AREA

(Continued from Page 38)

sibilities when drilling was suspended. It cut several sands below the horizon in which it was completed, but all of these combined did not equal in results the strike in the second test, the aggregate flow in the Fordham well being between 4,000,000 and 5,000,000 feet.

Several Angles of Interest

The Piceance Creek test is interesting from several angles other than the possibilities of opening a new gas or oil field. The drilling is entirely in the Green River formation of Tertiary age, the formation which comprises the oil shales of western Colorado and eastern Utah, including in the lower part the famous "Mahogany" beds of oil shale. Exploration for oil or gas in this formation has been rather limited in the Rocky Mountain area, although it is highly productive in California, and should a commercial discovery be made, there are several structures in that area which probably will be tested.

Another interesting feature is that Piceance Creek is practically 100 per cent unitized, royalty owners as well as leaseholders and permit owners being included in the agreement. The Magnolia company is credited with controlling 5,180 acres on the structure and others owning interests include the Argo Oil Co., Snowden & McSweeny, the Midwest Refining Co., E. P. Earle, a director of the Phillips Petroleum Co., and several smaller companies. A. C. Lighthall, of Denver, with his associates, gathered into a block approximately 50,000 acres in this area, of which approximately 11,000 acres are in the closing contour on the Piceance Creek structure as at present mapped.

First Noted in 1877

The structure first was noted as far back as 1877 when it was examined in a general way by F. V. Hayden and referred to in his "Geological and Geographical Atlas of Colorado and Adjacent Territory." E. G. Woodruff and David T. Day examined the area in 1917 in connection with oil shale investigations and referred to it in Bulletin 381 of the U. S. Geological Survey. Dean E. Winchester also reported upon it in Bulletin 641. Other reports were made by R. Claire Coffin, chief geologist, and E. S. Shaw, geologist, of the Midwest Refining Co., C. T. Lupton and others. The structure is approximately 10 miles long and 2½ to 3 miles wide. A cross section shows approximately 470 feet of sand, ranging from a few feet up to 200 feet in thickness, the bigger sand being near the bottom of the Green River.

The other test in Rio Blanco County which is nearing an interesting stage is the California Co.'s No. 1 California-Raven, NW SE, Section 30-2n-102, on the Rangely Dome, which is reported drilling at 3,544 feet. It topped the Dakota at 2,940 feet in an 18-inch hole, but heavy mud was being carried and no test of the gas, if any, was made, as the objective is the Weber, or Tensleep sandstone in the Pennsylvanian which may be expected at around 8,500 feet. At its present depth it is supposed to be nearing the Sundance sand which has been drilled in another test on the structure, but which has possibilities in this test. No hole has heretofore been put down to the Pennsylvanian on this structure.

Weld County

The Prairie Oil & Gas Co.'s No. 1 O'Toole, C SE NE, Section 33-7n-62, Crow Creek district, 10 miles to the northwest of the Greasewood Pool, is bottomed at 7,273 feet and is preparing to abandon. No shows of oil or gas of importance were encountered and when the hole began caving and causing considerable trouble, it was decided to go no farther. The 7-inch, of which 7,300 feet was on the racks, was not run. The Muddy sand was not in place and the formations were so badly broken, that it is not certain that the Dakota was tested.

There were no important developments in the Greasewood area, although the Continental Oil Co.'s No. 1 Gadbois, C SE SW, Section 24-6n-61, is drilling close to the sand and is expected to be an early completion. No definite time for drilling in has been named as the hole is being cemented at intervals to stop caving. It is drilling at 6,620 feet in cement and still has about 15 feet of cement to penetrate. Below that it has 35 or 40 feet to go before the Muddy is expected.

The Continental company made an arrangement with the Greeley Oil Co. to complete and test its No. 1 Gadbois, C NW NW, Section 25-6n-61, which is through the Muddy sand at a total depth of 6,698 feet and which has been showing around 20 bbls. per day on an average. Manning & Terry, the contractors on this well, will do the work under the supervision of Continental officials. It is reported that the Continental agrees to take its pay in oil and first call on all oil produced on the lease.

New Directors Chosen

The Platte Valley Petroleum Co., which is the largest holder of leases in this area, held its annual meeting on January 18 and elected a new board of directors. Menus Johnson, of Fort Morgan; A. J. Johnson, of Chicago; W. T. Johnson, of Fort Morgan; and Floyd Mendenhall, of Chicago, who were elected to the board a year ago, were re-elected. New directors elected were C. B. Colwell, Monmouth, Ill.; L. Beecher, Chicago; C. F. Stahl, Denver; E. H. Sabra, Denver; and Galway Layton, of Fort Morgan. Directors elected a year ago who are not on the present board are Daniel D. Quinn, Fred Tapscott, A. E. Shogren, Harry Richly and Walter E. Schwed. The new board re-elected Menus Johnson, president. C. F. Stahl, of Denver, was made vice president; William B. Paynter, of Brush, secretary; and Galway Layton, treasurer.

Vice President Stahl states that the new board is entirely harmonious. It is expected that plans for further development of its holdings will be formulated shortly, especially for the drilling of the Niles lease comprising the E half, Section 13-6n-61, which offsets a producing lease held by the Continental Oil Co. Cellar and slush pits were completed on this lease several months ago and negotiations for a well were taken up with several companies. An option recently was reported given to Max Smith, the limit for beginning work being January 28. The last week some additional work, the pouring of cement for derrick foundations, was done, but whether this will be accepted as an evidence of good intentions, has not yet been announced.

Lincoln County

Reports from the Eastern Colorado Oil Co.'s No. 1 State, SE cor. NW, Section 36-14s-57, near Hugo, which is bottomed at 3,425 feet, supposedly a few feet off the Dakota sand, are to the effect that cleaning out still is in progress. It was planned to drill by the lost tools, but caving has interfered. The casing was pulled up 150 feet and about 500 feet of water from behind the pipe and 60 feet of cavings above the tools are standing in the hole. The bailer is reported to bring up enough gas to bubble out the water and leave only the mud and slush.

Jefferson County

The Ruby Hill Oil & Gas Co.'s No. 1 Braden, SE cor., Section 24-4s-69, near Denver, is preparing to resume at 4,106 feet, following a deal whereby a Denver house is reported to have agreed to finance completion of the test.

Arapahoe County

The MacDeb Drilling Co.'s No. 1 Fitzsimmons, NE, Section 7-4s-66, near Aurora, is reported drilling at 5,904 feet. The hard rock through which it has been going, is reported softening up, but the bottom of the hole is so hot that frequent stops have to be made to temper the bit. The drillers report that both oil and gas are showing on the bailer.

Larimer County

The Mayer Oil Co.'s No. 1 Reed, SW cor. NW, Section 28-4n-69, Bethoud dis-

(Continued on Page 66)

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Chicago Starts Month in Good Position

Prices Show Antiknock Quality of Gasoline Has Become Prime Consideration Among Buyers, With Demand Increasing

By Robert C. Conine

Chicago Bureau, The Oil and Gas Journal, 6 North Michigan Ave.

CHICAGO, Feb. 1.—With the exception of U. S. Motor gasoline of no octane specifications, the gasoline markets in Chicago district opened the first week in February in a good position and the prices quoted show that antiknock quality has become the prime consideration among the buyers. The no octane material is in excess of the dwindled demand for this class of motor fuel, whereas the supply of middle and high octane gasoline, guaranteed, is comparatively low and the result has been a widening of the margin between the price of ordinary U. S. Motor and that of the antiknock gasolines. The middle octane gasolines are bringing a premium of half a cent, easily, while the high octane gasolines bring an additional quarter of a cent to half a cent premium. However, the other specifications of the higher octane gasolines moving in the Chicago district markets in nearly every case conform more closely to that of the 60-62 400 endpoint material than to the U. S. Motor grade. With the district now experiencing its first zero weather of the winter, the demand for higher test gasolines will advance at the expense of U. S. Motor.

Distributors and Jobbers Nervous

Developments of the past week have not added to the peace of mind of distributors and jobbers. Justifiably or not some of these marketers have suffered disillusionment. A week ago they were looking forward to some active inter-refinery buying, and they were encouraged by the purchase of 300 cars of middle octane gasoline by one company, and about half that amount by another. Then two prospective major buyers threw shadows on the bright outlook by quoting prices of 3.08 and 3.05 cents, respectively on a 40-car order of 60-62 400 endpoint gasoline for delivery over February to the city of Milwaukee. Then the refiner who took this business made a bid on a 120,000-gallon order for an Iowa city and thought to secure the deal by shaving down the profit to 0.35 cent. This refiner lost the business to another major, who, by the same calculations as the first, was able to cut down his profits to about minus 0.25 cent.

With the majors engaged in price shaving activities, indicating a strong desire to get rid of gasoline, the hope of smaller refiners, brokers, distributors and jobbers that the larger companies will step in and clean up excess stocks that have accumulated, has been dimmed. The attitude of the trade is reflected in increased caution and further curtailment of buying, so that only immediate requirements are being met. Those buyers who were taking 2½-cent gasoline for delivery over January, naturally, have sent in instructions before the close of the month and this gasoline will have to be considered this week. Monday the feeling in the trade was that while there is little expectation of an advance in the gasoline markets, price recessions, if any, will be small. The quantity of antiknock gasoline available at this time and the partiality of buyers for this material makes the possibility of price declines in these gasolines remote. The ordinary U. S. Motor gasoline, however, is fast taking the position of distress material and confidence is weakening in the holders of this gasoline. Contracts are taking care of a lessened volume of this material, and some of the refiners who have closed down their plants are understood to be buying to meet their obligations.

Tank Wagon, Service Station Situation

The process of "normalizing" service station and tank wagon postings throughout the territory has progressed steadily, although subnormal prices continue at several of the principal points in Missouri and Kansas, and at numerous towns in Michigan. One of the major companies which has not adopted the third grade gasoline in Michigan and is selling its regular grade at the price of the price competition motor fuel, is said to be responsible for the drastic reductions in that State. However, this company has been introducing the third grade at various points and moving its regular grade to the "normal" level, and it is expected that this company will soon extend the use of the third grade over Michigan. Retail price advances recently made in the territory are as follows: Davenport, service station advanced 2.6 cents to 15.6 cents; Des Moines, service station and tank wagon postings advanced 2.6 cents to 15.6 cents; East St. Louis, service station price advanced 2 cents to 14.8 cents, and St. Joseph, service station and tank wagon prices advanced 4.1 cents to 14.6 cents. Minneapolis service station advanced 1.8 cents to 16.3 cents.

Shell Buys Sunoco Chicago Outlets

Shell Petroleum Corp. has increased the number of its dealer outlets in Chicago by 75, and eliminated duplication which resulted when Shell purchased Western Oil & Refining Co., Columbus, Ohio, through a trade with Sun Oil Co., which is withdrawing from the retail business in Chicago and concentrating its activities nearer home. Twenty-five drive-in service stations are included in the newly acquired Shell properties, bringing up the number of Shell service stations in Chicago to 448. Sun Oil Co. takes over the Ohio Shell stations which are located near to Shell stations which were operated before the Western company purchase.

A new commodity figures among the inducements offered by cut price service station operators to increase their gallonage. This is the wine brick, and not a few who have eschewed the trackage stations are expected to weaken. However, this premium has made its appearance at only one station so far. The department stores have not yet installed gasoline pumps, but they are now offering 100 per cent pure Pennsylvania lubricating oil at 9½ cents a quart.

While East Texas has borne most of the blame for unsettled conditions in the industry, it cannot be denied that most of the uneasiness felt in Chicago oil trade circles comes from that source. North Texas and the Panhandle, where crude oil buyers have posted reduced prices and from which a considerable quantity of the extremely low priced gasoline comes into the district, are adding to the apprehension of the buyers. The mounting gasoline stocks, indicating inability or unwillingness on the part of the refiners to curtail crude runs to stills to come into line with reduced demand conditions, has made buyers extremely hesitant about ordering material as much as a month ahead at current prices. Another discouraging factor has been the apparent failure of refiners to hold a new form of contract which would assure the sellers greater safety. It seems that some refiners have got around ignoring the more favorable agreement outright by extending the old contracts which allowed marginal spreads which during the past year forced some refiners to sell gasoline at 1½ cents or less. Others have rehashed the new contract until the benefits intended for the refiner have been practically eliminated. And it appears that nothing can be done about it and that gallonage, not profit, will continue to be the chief objective of refinery sellers during 1932.

It is quite possible that before long we shall see Q.D.A.'s carried out to nth fractions of a cent. In fact, one refiner who offered a tank wagon buyer a 3½-cent Q.D.A., last week, lost the business when an alert competitor bettered this offer with a Q.D.A. of 4⅝ cents. Standard Oil Co. of Indiana has revised its Q.D.A. to allow the regular discount on deliveries of 500 gallons a month, instead of 1,000 gallons a month, as formerly.

Tank Car Gasoline Prices

Little change either downward or upward is looked for in the middle and high octane and the high test gasolines this week, and the fate of the material which goes into cut price competition channels depends largely upon the attitude of the refiners, not the buyers for resale and retail. There is little doubt about the attitude of the trade. They look upon the low antiknock gasoline with disfavor for two reasons. It is hard to sell and there is too much of it in storage and transit. If the majors who are concentrating their efforts in producing 65 octane and above gasoline for their regular grade do not re-form the low octane straightrun, they naturally will have to sell it, and this prospect is not at all comforting. In selling their octane specifications gasoline the refiners have become insistent upon receiving the premium on material above 60 octane number.

On the brighter side one of the refiners in the district who has been consistently selling below the market, and who was delivering 2½-cent gasoline over January, has announced his withdrawal from the spot markets until prices advance further. Quotations at the opening of the new month show an eighth of a cent decline in U. S. Motor of no octane specifications, making the new prices 2⅞ to 3⅛ cents. The low, however, at present represents a large part of transit material which is piling up demurrage on the sidings. Although a few sales of 60-62 400 endpoint gasoline have been reported lower, ruling prices in the district on this material show some quotations an eighth of a cent higher than last week, although the low is unchanged. The range is 3¼ to 3½ cents. The 64-66 375 endpoint gasoline has acted similarly with the high advancing an eighth of a cent making the new range 3⅞ to 4⅛ cents. The 68-70 360 endpoint gasoline has advanced an eighth of a cent and is moving at 4⅛ to 4⅜ cents. Fighting grade aviation gasoline remains without change at 4¾ to 5¼ cents.

Light Naphthas Advance

Business in the lighter naphthas has picked up and prices for the lacquer diluents and rubber solvent have advanced from an eighth of a cent to three-eighths of a cent. Last week rubber companies in Akron, Ohio, began operating on a 36-hour a week basis instead of 24-hour a week basis, because of increased production schedules to fill spring dating orders. This has encouraged several sellers of suitable naphthas to advance their prices in Akron district. Naphtha sellers report a slight upturn in paint business, but naphthas to these manufacturers have not advanced yet. One of the major sellers is quoting prices considerably higher than the ruling markets, but the business includes the expert service of the company's laboratory men and the research facilities, so that this refiner remains as one of the largest sellers.

The two grades of lacquer diluent, for special reasons, are now quoted at the same prices although there has been a quarter of a cent differential between them hitherto. The 140 initial, 200 endpoint lacquer diluent, and the 180 initial, 250 endpoint lacquer diluent, are both quoted at 9 to 9¼ cents. Last week the first was offered at 8⅞ to 9⅛ cents and the latter at 8⅝ to 8⅞ cents. Rubber solvent, 68-70 gravity, 100 initial and 300 endpoint, advanced from a range of 5⅝ to 6⅛ cents to a new range of 5⅞ to 6¼ cents. Petroleum spirits, which is differentiated from petroleum thinner by a higher endpoint, is somewhat lower due to offerings of a large marketer, and has dropped an eighth of a cent to 3⅞ and 4¼ cents. The 50-52 450 endpoint blending naphtha is revised upward an eighth of a cent making the new prices 2¾ to 2⅞ cents. The remaining naphthas show no change from last week, as follows: Cleaners', 200 initial, 320 endpoint, 5⅝ to 5⅞ cents; Stoddard solvent, 100 initial, 300 endpoint, 4⅞ to 5⅛ cents; petroleum thinner, 290 initial, 410 endpoint, 4⅜ to 4⅝ cents, and V.M.&P. naphtha, 190 initial, 330 endpoint, 5¼ to 5½ cents.

Kerosene Tank Car Markets

The kerosene tank car markets continue as the brightest spot in the petroleum products lists and show no signs of weakening from the comparatively high levels reached several weeks ago. The 41-43 water white kerosene is quoted at 2⅝ to 2¾ cents, and the 42-44 water white material is quoted at 2¾ to 3 cents. Prime white distillate cannot be bought by the trade at 2 cents as was the case a week ago.

There was no price change in the gas oils and fuel oils noted Monday, and the fear of numerous marketers that adverse weather conditions and heavy stocks will cause the straw distillate to soften somewhat has been allayed momentarily by the arrival of zero weather. If this cold weather continues for more than 10 days the situation in furnace oils will be eased considerably, although it is reported that several large marketers are getting ready to move a large part of their large stocks of this material.

Right now, as the cold spell opens, it is generally agreed in the trade that a large buyer of straw distillates would be able to get supplies under the current market postings without difficulty. However, there has been an expansion in the Chicago district in the use of oil home heating equipment. Sellers of oil heaters have stopped "running down" their competitors' installations and the oil burner people are making greater headway in winning the confidence of the public. While sellers of these fuels have experienced a considerably curtailed season, a prolonged session of today's weather will go far to right matters for them.

Buyer Experimenting

A proposition which at first had the earmarks of a gasoline tax dodging scheme has turned out to be an attempt to manufacture Diesel oil by blending U. S. Motor gasoline and heavy fuel oil. The fuel oil is about 10 gravity, and the blender reports that the addition of the motor fuel produces a high grade fuel for the Diesels at his automobile hotel. There are no indications at this time as to the possible widespread adoption of this method. The volume of business in gas oils has been comparatively small and that of fuel oils practically negligible.

However, there appears to be no down-

(Continued on Page 60)

Refinery Kerosene Lower in the East

Half Cent Break in Tank Car Market Reflects Decreased Sales, but Gasoline Is Strong as Spot Gallonage Shows Gains

By A. E. Mockler

New York Bureau, The Oil and Gas Journal, Rooms 1919-21, No. 154 Nassau Street

NEW YORK, Feb. 1.—A reduction of one-half cent per gallon in the refinery quotation for water white kerosene featured the refinery market in Atlantic Seaboard territory during the past week, this cut marking the first break in what previously had been a decidedly strong market. Continuance of unseasonably warm weather had cut into kerosene gallonage in this area, and notwithstanding curtailed output at the refineries, stocks had accumulated to the point where maintenance of the 6-cent level proved impossible.

Bearing out the old "ill wind" adage, however, the position of the gasoline market was just the opposite to that for burning oil. The warm weather stimulated motoring, and volume of sales in the gasoline market registered new gains. Gasoline gallonage in the East Coast area during the first month of the new year has substantially exceeded refiners' expectations, and a slight drop in refinery holdings of gasoline has developed.

While a few sections of the country have been slow to respond to the industry's curtailment campaign, results to date have been of extremely constructive nature, and the outlook for the spring and summer season is hopeful, eastern oil interests believe. A fairly satisfactory balance between production and consumption has been struck, aided in some measure by the mild weather throughout the country, and if the producing and refining divisions can hold their operations somewhere around current levels, the marketing division of the industry will be in position to contribute its full quota of support as soon as the season of heaviest gasoline consumption arrives.

Want Further Reduction

Although substantial progress has been made in reducing surplus stocks of refined products, leaders in the industry would like to see gasoline and fuel oil holdings at much smaller levels than they are at present, and every effort will be made to avoid overoptimism in the refining branch of the industry during the early spring months. Gasoline and other products have been selling at unprofitable levels for so long that many refiners are apparently hardened to their "profitless prosperity," but there is a steadily growing recognition of the fallacy of large volume at no profit.

The crying need of the industry now is for a fair return on operations, and leading interests believe that the trade is now well on the way back toward a more normal state of affairs.

The tariff situation continues a leading topic in eastern oil circles, and proceedings at Washington are being closely studied. The large integrated companies with production in South America are, in one sense, targets of the tariff protagonists, but due to the fact that their holdings and interests are preponderantly in this country, they will likewise benefit from a tariff impost. The principal effect upon the operations of these units will be the necessity for readjustment of their foreign operations and, quite possibly, the construction of additional refinery facilities abroad to manufacture their foreign crude oil output into refined products for shipments into foreign countries where no substantial tariff barrier exists. Having pointed out to the domestic oil trade the probable effects of an import duty on petroleum on export sales of American refined products, these companies have apparently decided to sit back and await developments, basing their future policies on the outcome of the tariff agitation.

Refinery Gasoline

Further improvement in gasoline demand kept the market in firm position throughout the week, and tank car movement continued heavy for this season of the year. A majority of the major factors in the seaboard territory were quoting U. S. Motor gasoline at 6½ cents per gallon, tank car lots, f.o.b. refinery terminals, although a few of the larger sellers were still on a 6-cent basis and on gasoline under 65 octane number 5¾ cents was being openly quoted, with a little business reported going through at 5½ cents.

Jobbers have been keeping their storage full during the past fortnight, notwithstanding the price irregularity which developed during the middle of January, full stocks being required to take care of current demand from the retail trade.

The situation with respect to antiknock rating of gasolines sold as "U. S. Motor" in the tank car market continues mixed, with some refiners delivering motor fuel of 65 octane number or higher under this category, while others continue to specify merely "U. S. Motor." While there is already a differential of one-half cent per gallon established in the open market between gasoline of less than 65 octane number and that testing above that figure, the differential has not been established long enough to constitute an arbitrary dividing line. Refiners who are not producing the higher antiknock gasoline in sufficient quantities to specify that grade in their tank car deliveries, however, are expected to complete refinery improvement program during the year that will enable them to meet specification competition.

The warm weather has again been reflected in the demand for leaded grades of motor fuel, and movement of the premium qualities has eased off somewhat.

Tank Wagon Gasoline

Weakness in the wholesale market for gasoline testing under 65 octane number is giving independent marketers plenty of material with which to underquote in the retail market, and there is still considerable divergence in the retail price structure in various parts of the territory.

Increasing demand under the stimulus of improved weather conditions, however, has tended to better the situation, and furnish sufficient gallonage to go around without resorting to price cutting to hold business, and some marketers who have been among the most flagrant in the price cutitng field are now showing a tendency to work their quotations closer to the established posted level.

There have been no general revisions in tank wagon or service station prices in the territory during the week, and with the refinery market for antiknock grades showing a stronger tone marketers expect that the present level of retail prices will hold, unless weather conditions should show a sharp turn for the worse and a sustained spell of wintry weather set in and curtail consumption.

Retail gallonage in premium gasoline has declined somewhat during the past few weeks, due to the warm weather which has prevailed during this period.

Kerosene

Milder weather cut into refinery kerosene demand somewhat during the week, and refiners reduced their posted price for 41-43 water white by one-half cent to 5½ cents per gallon in tank car lots, f.o.b. refinery terminals. Some business was reported done at 5¼ cents in a few quarters. A continuance of unseasonably warm weather, it was felt, would cut further into consumption, and the market undertone had turned definitely weak.

Tank wagon gallonage was likewise affected by the warm weather and business showed a considerable contraction in some sections, but there were no revisions in quotations reported.

Lubs

Improved demand for cylinder oils developed during the latter part of the week and gallonage booked for spot delivery was considerably larger than for some weeks past. The renewed demand, coupled with some lessening of refinery output, brought about a better feeling in the market, but buying was not of sufficiently large amount to bring about any upward price movement and quotations remained at the previous week's levels.

Gasoline bootleggers in some sections of the country have been supplementing their gasoline sales by marketing of lubricating oils, using counterfeited cans bearing leading brand names, it is reported. The lubs so marketed in some instances have consisted merely of a blend of bright stock and red oil.

Industrial lubs were again quiet in the refinery market in East Coast territory last week, prices remaining without change.

Paraffin Wax

Domestic consumers were back in the market in a small way last week, and spot sales showed a little improvement. The higher melting points in particular were attracting buying attention, and while quotations held unchanged at former levels, refiners were showing less inclination to book ahead and were talking fractional price advances.

There has been a fairly heavy export movement of paraffin wax from the local port during recent weeks, but this volume has consisted in large measure of shipments on contracts booked during the closing month of 1931, relatively little new foreign business having come into the market since the turn of the year.

Furnace Oil

Demand eased off during the week, under the influence of the milder weather prevalent throughout the East, but the market remained in steady position from the price standpoint.

Marketers of furnace oil are considerably interested in the campaign for an import tariff on petroleum and products. Naturally, the domestic heating trade is solidly against the tariff proposal, but the only organized opposition is coming from the oil burner manufacturers' association, which will appear in Washington during the progress of the tariff hearings to oppose the projected duties.

Fuel Oil

The spot market for bunker "C" continues at 60 cents per barrel, bulk, f.o.b. refinery terminals, with this quotation likewise applying to contract deliveries.

A fairly active market was reported throughout the week, with contract deliveries fully up to expectations for this season of the year.

East Coast refiners look for a higher price basis for bunker oil by midyear, and believe that the market position will be substantially bettered in the event that Congress takes early action for the enactment of an import duty on foreign crude oil and refined products.

Industrial demand for fuel oil has shown a little improvement during the closing half of January, and refiners reported that their deliveries to shore installations for the second half of the month were materially larger than those for the first fortnight of the period.

Diesel Oil

There was no change in the Diesel oil situation during the past week, and refiners continued to post $1.30 per barrel, bulk, for deliveries f.o.b. refinery terminals, plus 6½ cents per barrel for lighterage alongside within the harbor limits.

Refineries in this area are holding down Diesel oil ouput and it is expected that in the event of the imposition of a heavy import duty on petroleum and products Diesel oil prices will reflect the higher production costs almost immediately.

Gas Oil

Routine trading was in evidence in the gas oil market during the period under review, and a soft undertone continued to characterize the spot market. Refiners were still posting 4 cents per gallon for 28 gravity plus recycled oil, with spot sales going through at 3½ to 3¾ cents in tank car lots at refinery terminals.

Industrial consumers have increased their contract withdrawals slightly, but the volume of spot sales continues of disappointing nature and the market stability is adversely affected by the heavy stocks on hand at refineries.

Petrolatum

Improving demand for petroleum has brought about a better feeling in the market, and the undertone has stiffened somewhat, although prices remain at previous levels.

Domestic pharmaceutical manufacturers have been buying spot and nearby deliveries in good volume, the demand centering to a considerable extent on the white grades.

Gulf Export Market

Continued dullness ruled in the export market at the Gulf during the week, and prices remained unchanged on both gasoline and kerosene. While a little interest was shown in less-cargo lots, there were no inquiries for full cargoes. Export operators expressed the belief that considerable French business normally reaching the Gulf had been diverted to Rumania. Integrated companies with foreign marketing connections, however, were apparently moving crude and products abroad in good volume, as indicated by recent charter fixtures.

Rumors of considerable activity in Mexican and Venezuelan crude this week, upon investigation, proved to be groundless, and due to the multiplicity of inquiries sent out by a few interests. The quoted price on Mexican crude remains 51 cents per barrel, plus taxes, while Venezuelan crude is quoted at 47 cents per barrel.

A large quantity of California crude is scheduled for early shipment to Japan, probably on term contract as no spot sale for export has been reported recently.

California Oil Receipts

Receipts of California crude and refined petroleum at Atlantic and Gulf ports during the week ended January 23 totaled 401,000 bbls., a daily average of 57,286 bbls., compared with 95,000 bbls., a daily average of 13,571 bbls. for the previous week and a daily average of 45,679 bbls. for the four weeks ended January 23. The week's receipts consisted of 369,000 bbls. at New York and 32,000 bbls. at other Atlantic ports, comprising in all 393,000 bbls. of gasoline and 8,000 bbls. of lubricating oils. There were no receipts at Gulf ports during the week.

There were two cargoes reported cleared from California for the Atlantic Coast during the week, the Solana (Associated Oil Co.), with 67,000 bbls. of gasoline and 8,000 bbls. of lubricating oil, for New York, and the Dean Emery (Pan American Petroleum & Transport Co.) with 80,000 bbls. of gasoline for Boston.

(Data on tanker charter markets for-

merly appearing as part of this report now appear elsewhere in this issue).

Petroleum Exports

There was some improvement in the local export market during the week, and inquiries for prompt and nearby shipment material had developed along somewhat broader lines. With the price basis for refined products in the domestic market exhibiting a rallying tendency, export operators were showing more inclination to cover their nearby requirements, and traders here were looking forward to quite a little business on spot during the next few weeks.

The following table shows refined petroleum exports from the local port for the past three weeks (all figures in gallons unless otherwise noted):

	Week ended		
	Jan. 23	Jan. 16	Jan. 9
Gasoline	72,000	3,000	100,000
Naphtha	135,000	.....	.....
Kerosene	5,000	65,000	10,000
Fuel oil	5,000	5,000	10,000
Lubricating oil	640,000	1,250,000	2,105,000
Petroleum, ref'd.	1,050,000	30,000	260,000
	Pounds		
Petrolatum	100,000	.....	.....
Paraffin wax	4,390,000	2,475,000	1,325,000
Refined	390,000	390,000	.....
Scale	285,000	300,000	265,000
Lub. grease	829,000	935,000	345,000

Interest has been shown in local export circles over the complaint which is now being heard before the local shipping board officials on the differential in freight rates to South Africa between New York and Philadelphia and the pending complaint along similar lines regarding West African freight rates. Atlantic Refining is the complainant in both instances, its action mirroring the rivalry between refiners shipping out of New York and their Philadelphia competitors on some phases of the export trade.

Imports

Imports of crude and refined petroleum at the principal United States ports for the week ended January 23 totaled 1,542,000 bbls., a daily average of 220,286 bbls., compared with 1,438,000 bbls., a daily average of 205,429 bbls. for the previous week and a daily average of 216,143 bbls. for the four weeks ended January 23. Details follow:

	Bbbls. of 42 gals.
At Atlantic Coast Ports—	
Baltimore	185,000
New York	897,000
Philadelphia	165,000
Others	119,000
Total	1,344,000
Daily average	192,000
At Gulf Coast Ports—	
Galveston district	86,000
New Orleans and Baton Rouge	112,000
Total	198,000
Daily average	28,286
At all United States Ports—	
Total	1,542,000
Daily average	220,286
Daily average four weeks	216,143

Distribution of total imports is as follows:

Crude	923,000
Gasoline	162,000
Gas oil	94,000
Fuel oil	363,000

Large integrated companies with important South American producing properties are greatly interested in the probability of early hearings by the House on the proposed oil tariff question. Important organizations, including the American Oil Burner Association, American Road Builders Association, and American Show Owners' Association, are expected to appear in opposition to the imposition of any import tax on either crude petroleum or refined products.

CHICAGO STARTS MONTH IN FAVORABLE POSITION

(Continued from Page 58)

ward pressure exerted as to price. Prices on materials of suitable pourpoints for this district Monday were as follows: 32-36 straw, 1⅞ to 2⅛ cents; 38-40 straw, 2⅛ to 2¼ cents; 32-36 industrial gas oil, 1⅜ to 1½ cents; 28-30 zero fuel oil, per barrel, 50 to 60 cents; 22-26 fuel oil, 32½ to 37½ cents; 18-22 fuel oil, 25 to 30 cents, and below 18 gravity fuel oil, 20 to 25 cents. The outlook for the heavy fuel oils, if certain sources of information are to be credited, is distinctly dark. From these quarters it is reported that several refiners in the district are offering these fuels at prices which would be practically nothing on the Group 3 basis.

Road oil prices have declined considerably since last season, if the contract letting for Champaign, Ill., last week is any indication. The oils bid were on the E2, E3 and E4 Illinois specifications, and the quantity was 2,000,000 gallons. A major company got the business on a delivered price of 3.46 cents a gallon. The average price of the other bidders was 4.06 cents a gallon. Another bidder placed an offer of 3.55 cents a gallon.

CANADIAN FIELDS

(Continued from Page 38)

been suggested that thin layers of blue sand struck in the Moose Jaw well may be an eastern extension of the Belly River formation so prominent in Alberta. Imperial Oil tests in southwestern Saskatchewan showed a combined thickness of 1,715 feet of Belly River, Pierre and Colorado, and this checks with the Moose Jaw well. The Colorado formation showed about 1,300 feet and the base of these shales would in various tests be between 2,450 and 3,000 feet, this representing the top of the Dakota, or Blairmore-Kootenay, which is about 500 feet thick. Government reports indicate that the Moose Jaw test passed through the Cretaceous and the underlying Jurassic into limestones of Devonian or Carboniferous age. In Saskatchewan tests, mineralized or saline water is found in the Dakota at or below 1,160 feet. With a fairly level prairie country, Saskatchewan has been somewhat difficult to geologize; and the deep tests already drilled have been so distant from one another that correlation is difficult. Central Saskatchewan has not, however, been subject to the disturbed rock conditions found in the foothill areas of Alberta, and geological conditions are probably fairly uniform over wide areas.

Drilling so far has been restricted to the southern and western portions of the province. In northwestern Saskatchewan, east and a little north of the Wainwright and Ribstone Fields of Alberta, Unity Valley Oil Co. of Calgary has drilled three tests. Unity's No. 1, Section 23-41-21w3, went to 3,000 feet; No. 2, same section, to 2,925 feet; and No. 3, Section 14-41-21w3, is shut down at 2,090 feet. Unity's No. 1 was reported to have encountered a good show of oil and later a strong gas flow, but no commercial production developed. R. H. Breckon of Calgary, who was associated with the Unity company, is reported organizing a new company to test this area.

In the Saskatoon area, H. L. Williams, formerly of California, at one time drilled a test to 2,824 feet. Some 10 years ago, Imperial Oil, Ltd., drilled two tests in the southwestern corner of the province. The general area was in Township 1-27w3, south of Consul, Saskatchewan, and north of Havre, Mont., and about 20 miles north of the Alberta-Montana boundary. One of these tests was carried to 3,963 feet. Another Imperial test at Muddy Lake was drilled to about 2,900 feet.

Several years ago, the Rosetown Syndicate's Herschell No. 1, LSD 13, Section 4-31-17w3, near Herschell, got fair shows of oil and gas but later stopped drilling at 2,034 feet. In the Riverhurst area, two shallow tests by local interests in Section 33-22-7w3, got shows of gas, reported 500,000 feet a day, at 518 and 528 feet. In southeastern Saskatchewan, Simpson Oil Co.'s No. 1, Section 9-29-25w2, after years of intermittent drilling which resulted in small shows of oil and gas encountered salt brine at 3,500 feet and is now installing plant to produce salt. A second test for oil is in contemplation.

Efforts to secure a gas supply for Regina and other Saskatchewan cities have been responsible for a large portion of the drilling. Last year Aladdin Oil & Gas Co.'s No. 1, Section 33-17-18w2, near Pilot Butte, was carried to 2,855 feet when it shut down. Blackfoot Oil & Gas Co.'s No. 1, in Township 13-20w2, was started last fall but at last reports was standing at 89 feet.

A number of tests started in recent years were discontinued at shallow depths. Near Readlyn, Ribstone-Wainwright Oils' No. 1, was carried to only 400 feet. South of Saskatoon, Big Six Oil Co.'s No. 1, LSD 16, Section 18-29-2w3, lost its hole at 200 feet. In the Eden Valley area, a test by a local syndicate, in LSD 14, Section 35-28-8w3, has been standing for a considerable time at 964 feet. East End Oil & Gas Co.'s No. 1, LSD 7, Section 31-6-21w3, was drilled to 1,600 feet and is reported to have got a small gas flow which has not yet been utilized. It is possible the interest aroused by the Moose Jaw drilling will result in resumption of some of the unfinished operations.

In connection with the Regina franchise sought last year by Power Corp. of Canada, a stipulation was made that a fund be provided to finance a certain amount of drilling for gas in Saskatchewan. This franchise, however, is still in abeyance; but interests connected with the Bowdoin Field in Montana, from which the Power corporation plans to draw its main gas supply, are reported arranging to test some areas in southern Saskatchewan.

South Turner Valley

In South Turner Valley, Alberta, Miracle Oils' No. 3, LSD 11, Section 4-19-2w5, is drilling below 5,550 feet and close to the first naphtha horizon in the Madison limestone, from which Miracle's No. 1 got its production. Casing was previously cemented 60 feet in the lime at 5,540 feet. In the same area, Hylo Oils' No. 1, LSD 12, Section 4-19-2w5, is reported at 5,430 feet and running 6-inch casing. The test is about 50 feet off the lime, and bailing crude from the upper sand. Spray Oils' No. 1, LSD 9, Section 5-19-2w5, taken over recently by Canadian Royalties, Ltd., of Calgary, is reported preparing to resume. This test offsets Hylo's No. 1 to the west, and is south of Miracle's No. 2, and originally bottomed at about 2,330 feet.

In the far south, Mar-Jon-Freehold's No. 1, LSD 9, Section 28-18-2w5, is reported preparing to resume after cementing 12½-inch around 2,850 feet.

Central Turner Valley

In Central Turner Valley, McLeod Oil Co.'s No. 1, LSD 16, Section 1-20-3w5, is reported cleaning out below 3,603 feet, with released gas production impeding drilling. Original bottom was 3,947 feet.

Tests in the Foothills

Operations in the foothill areas of Alberta are almost at a standstill. In the Moose Mountain area, Graystone Petroleum's No. 2 Signal Hill, LSD 9, Section 34-23-5w5, has been fishing for lost tools, after reaching a maximum depth of 4,224 feet. There has been considerable trouble with open hole caving, and it has been decided to pull the 3,300 feet of 6⅝-inch casing after which the hole will be underreamed and the pipe carried down behind the tools.

On the High River-Aldersyde structure, Ranchmen's Oil & Gas Co.'s No. 1, LSD 16, Section 13-20-29w4, is reported resuming at 5,350 feet after repairing a broken engine shaft.

Border Fields

In the border areas of southern Alberta, interest is concentrated on three tests operating in practically the same horizon around Lethbridge. Parco Oil Co.'s No. 1 Twin River, LSD 16, Section 34-1-20w4, has plugged back for a water shutoff preparatory to testing a 40-foot oil horizon in the top of the Madison lime. At last reports the water shutoff was still being tested, but tubing and other equipment is on the ground to test oil production. Oil shows encountered in the Madison indicated a possible production of 100 bbls. a day, but the test was drilled deeper and encountered a heavy flow of water in the lime below 3,938 feet, and has plugged back to about 3,890 feet.

In the Keho Lake area, Hudson's Bay Oil & Gas Co.'s No. 1 Keho, LSD 2, Section 17-11-22w4, has finished cementing back to the water horizon in the Sunburst sand, and is testing water shutoff. If it proves up, the crew will start sidetracking lost tools to reach the oil horizon in the top of the Madison around 4,900 feet, where production will be tested.

Texas-Imperial's No. 1, LSD 14, Section 22-8-22w4, in the Lethbridge district, is reported drilling close to the Madison lime at approximately 4,510 feet. Operators are waiting to see if this test, which is in a closely related area and is logging very closely with the Twin River and Keho Lake wells, encounters the same oil horizon in the top of the Madison.

Near Brooks, Alberta, Canadian Western Natural Gas, Light, Heat & Power Co.'s No. 5 test for gas south of the town is reported rigging up. Drilling may commence as soon as the weather moderates.

Some diamond drilling is being done by Calgary interests on acreage near Del Bonita, test holes having been put down on the O. Hilt and J. Foggins farms.

Red Coulee Field

On the Montana end of the international Red Coulee structure Cosmos Petroleum Co.'s No. 3 Iowa, NE SE, Section 2-37-4w, is reported to have got the top of the Cosmos sand at 2,520 feet. It swabbed between 60 and 70 bbls. in 1½ hours which, according to reports, left no oil in the hole. Drilling was resumed when water was struck and the hole was plugged back. The sand is tight and may be given a shot, to be followed by another production test. The test offsets Askalta Oil Co.'s No. 2 Farbo, which after a shot developed an initial production of around 200 bbls. daily.

Test Near Oyen

In the Acadia Valley, near Oyen, Alberta, Fuego Oils, Ltd., is reported arranging for a second test, Fuego Oils' No. 1, NE, Section 34-25-4w4, was drilled to 3,165 feet and encountered good shows of a fair grade of oil with some incidental gas. The well, however, ran into drilling difficulties and has been standing for some time. Fuego's No. 1 was tentatively located in the same section and it is hoped, with the information secured from the drilling of No. 1, to get commercial production in the second grit. The company was financed largely by Ontario interests.

Ontario Drilling

In Kent County, Ontario, Olga Oil & Gas Co.'s No. 5, Jenner Side Road, Raleigh Township, has been finished around 1,660 feet. Several small pays of gas were met with an aggregate flow around 125,000 feet a day. The well was shot with 140 quarts, increasing the flow to approximately 380,000 feet. Out of a total of five tests in this area, three have been similar producers and a fourth was somewhat larger.

Alberta Oil Production

Official figures of Alberta oil production for 1931 differ slightly from the official and unofficial estimates already made public. According to a statement just issued by Hon. R. G. Reid, minister of lands and mines, the total production of all Alberta fields for 1931 was 1,455,195 bbls., a slight increase over the 1930 total of 1,433,844 bbls.

Details of the Turner Valley production show that on January 1 there was on hand a total of 13,352 bbls. of naphtha and 664 bbls. of light crude, a total of 14,016 bbls. Turner Valley production for the year was given as 1,340,971 bbls. This included 1,345,689 bbls. of naphtha, of which a deduction of 45,093 bbls. was made, leaving a net of 1,300,596 bbls. Gross production of light crude for the year was 26,936 bbls. with a deduction of 577, leaving a net of 26,359 bbls. Deductions from gross production represented refinery deductions intended to cover unavoidable loss in refining, loss in cleaning tanks and similar loss in handling. For naphtha this loss amounted to 3.35 per cent, and for light crude it was 2.15 per cent.

Storage in the Turner Valley at the end of December amounted to about 14 days' production at the December rate. Because of the fact that the market has been unable to absorb all offerings, the rate of production has been curtailed and a considerable capacity for storage has been built in the field.

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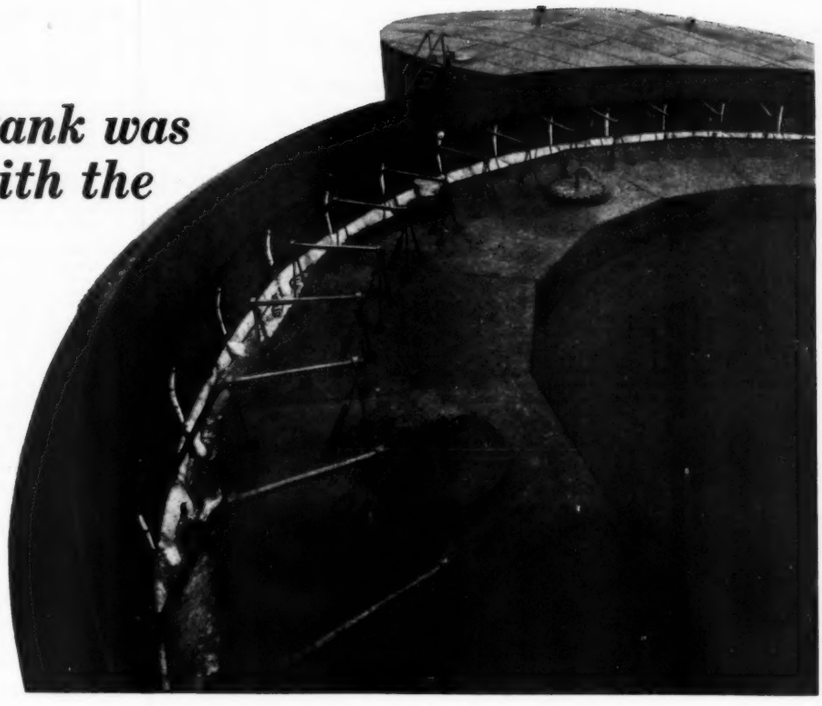

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WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 22)

Cranfill & Reynolds' No. 1 George, 400 ft. from N and 380 ft. from E, Sec. 200, Blk. 1, B.B.B.&C. Sur.....S.D. 3,795 ft.
Southern Oil Corp. of America's No. 1 Wm. Flannigan, 240 ft. from E and 165 ft. from W line of S 20 acres of SW, Sec. 20, B.B.B.&C.R.R. Sur. .....Drlg. 1,205 ft.

GLASSCOCK COUNTY

Mann et al's No. 1 fee, 330 ft. from N and 1,980 ft. from E, Sec. 37, Blk. 34, Twp. 3s, T.&P. Sur. .....Drlg. 125 ft.

GARZA COUNTY

Penny & Posey's No. 1 Justice, 1,980 ft. from S and 1,650 ft. from E of Sec. 25, Blk. 6, H.&G.N. Sur. (3,500-ft. cable tool test) .....Fishing for 6⅝-in. csg.; T.D. 3,320 ft.

HOWARD COUNTY

Green O. & R. Co.'s No. 1 Denman, 990 ft. from S and 2,310 ft. from W, Sec. 14, Blk. 20, Twp. 1s, T.&P. Sur..Spudded and S.D.
L. C. Harrison et al's No. 1 L. C. Denman, 2,310 ft. from S line and 330 ft. from E line of Sec. 10, T.&P.R.R. Sur., Blk. 30 .....T.P. 2,735 ft.; T.D. 2,807 ft.; shot and flows 20 bbls. hour.

IRION COUNTY

Davis et al's No. 1 Suggs, 1,560 ft. from S and 925 ft. from W, Sec. 3,081, Blk. 28, H.&T.C. Sur. .....Waiting on cmt. to set; T.D. 5,627 ft.
Stanolind Oil & Gas Co.'s No. 1 Williams, 1,320 ft. from S and E of Sec. 1,196, T.T.R.R. Sur. .....Drlg. 6,850 ft.
Straughn & Adkins Bros.' No. 1 Lee, 1,980 ft. from W and 420 ft. from N of Sec. 729, C. Kaiser Sur.....T.D. 1,347 ft.; underreaming 8¼-in. csg.

JONES COUNTY

Johnson's No. 1 Huddleston, 165 ft. from S and W of N half of N half of Sec. 39, Blk. 18, T.&P. Sur.....Rig up.
Grove & Shield's No. 1 Toomi's, 1,140 ft. from N and 220 ft. from E Sec. 25, Blk. 19, T.&P. Sur. .....Location.
Young et al's No. 1 Harrell, 150 ft. from S and E of N half of Sec. 8, O.A.L. Sur. .....Location.
Abers et al's No. 1 Burton, 150 ft. from S and 175 ft. from E of 43.4-acre tract in G. Martinez Sur.....S.D. 1,005 ft.; temp. abnd.

LOVING COUNTY

Adams et al's No. 1 Wheat, 330 ft. from SE and SW of Sec. 89, Blk. 1, W.&N.W. Sur. .....Drlg. 2,225 ft.
Ervin & Mahres' No. 1 Thrope, 2,310 ft. from E and 330 ft. from S, Sec. 46, Blk. 53, T.&P. Sur. .....S. D. 810 ft.
Slack's No. 1 Lynd, 990 ft. NE and 330 ft. SE of Sec. 3, Blk. 2, W.&N.W. Sur. .....S. D. 4,044 ft.; csg. cmtd.
Falbre & Evans' No. 1 Dean, 330 ft. from NE and 990 ft. from NW, Sec. 79, Blk. 33, H.&T.C. Sur.....S.D. 2,500 ft.
Lewis & Slagel's No. 1 Johnson, 330 ft. from N and 1,650 ft. from W, Sec. 6, Blk. 56, Twp. 1, T.&P. Sur...S.D. 250 ft.
Lockhart & Co.'s No. 3 Bowen & Wells, 330 ft. from NE and SE of Sec. 92, Blk. 1, W.&N.W. Sur.....S.D. 3,385 ft.
Phillips Pet. Co.'s No. 3 Wheat, 330 ft. from SW and 2,310 ft. from SE, Sec. 85, Blk. 1, W.&N.W. Sur.....Drlg. 1,035 ft.; T.S. 775 ft.
Tennant et al's No. 1 Martin, 990 ft. from NW and SW, Sec. 66, Blk. 1, W.&N.W. Sur. .....S.D. 4,326 ft.

MENARD COUNTY

Priest's No. 1 Sorrel, 1,000 ft. from E and 200 ft. from S cor., Sec. 132, E.L.R.R. Sur. .....S.D. 2,860 ft.

PECOS COUNTY

Anderson's No. 1 Lee Fever, 330 ft. from N and W of Sec. 74, Blk. 8, H.&G.N. Sur. .....S. D. 2,037 ft.
Cardinal Oil Co.'s No. 1 J. H. Tippett ("J"), 1,980 ft. from the S line and 990 ft. from the W line of Sec. 2, D. F. Robertson Sur. .....S.D. 675 ft.
Corvette Oil Corp.'s No. 7 H. Monroe, 575 ft. from N line and 1,717 ft. from W line, Sec. 39, G.C.&S.F. Sur., Blk. 194 .....Location.
Culberson Bros.' No. 2-A Monroe, 575 ft. from N and 150 ft. from E, Sec. 39, Blk. 194, G.C.&S.F. Sur.....Drlg. 625 ft.
Hampton et al's No. 1 Byrne, 1,980 ft. from NW and 1,500 ft. from NE Sec. 54, Blk. 10, H.&G.N. Sur. ....Location.
Dittman's No. 1 Sanford, 330 ft. from NW and 1,650 ft. from NE of Sec. 55, Blk. 10, H.&G.N. Sur.....S.D. 1,225 ft.
Slaughter et al's No. 1 Sun Yates, 60 ft. S of Sun Oil Co.'s No. 1 Yates, Sec. 59, Blk. 1, I.&G.N. Sur.....Material.

REAGAN COUNTY

Big Lake Oil Co.'s No. 6-C University, 1,370 ft. from S and 1,000 ft. from E, Sec. 12, Blk. 2 .....T.D. 4,810 ft.

REEVES COUNTY

Cunningham et al's No. 1 Wright, 1,320 ft. from S and W, Sec. 58, Cassel's Sur. .....S.D. 75 ft.
F. McDorman et al's No. 1 Ray Roberts et al, 2,310 ft. from S and E lines of Sec. 22, Blk. 59, P.S.L. Sur.....S.D. 105 ft.
James & Milton's No. 1 Patterson, 330 ft. from N and W of Sec. 21, Blk. 72 .....S.D. 3,360 ft.
Lee O. White et al's No. 1 Hershey, 330 ft. from N and W lines of Sec. 5, Blk. 51, Twp. 10, T.&P. Sur....S.D. 5,044 ft.

RUNNELS COUNTY

Dutton et al's No. 1 Dean, 5,475 ft. from NE and 1,048 ft. from NW in J. Heil Sur. No. 519 .....S.O. 3,427-20 ft.; S.D. 3,600 ft.

SCHLEICHER COUNTY

Eastland Oil Co.'s No. 1 Joe Tisdale, C, Sec. 29, Blk. M, G.E.&S.A. Sur. .....Drlg. 4,785 ft.
Wesner et al's No. 1 Nicks, 2,310 ft. from N and 2,302 ft. from E of Sec. 77, Blk. LL, T. C. Sur. .....Fishing 5,575 ft.
George Wilson's No. 1 Page, Sec. 40, Blk. L, 1,290 ft. from N, 1,570 ft. from W, G.H.&S.A. Sur. .....S.D. 5,053 ft.

SCURRY COUNTY

G. E. Dickman and R. B. Fender et al's No. 1 F. C. Davis, 1,000 ft. N and 1,770 ft. W of SE cor. of Sec. 275, Blk. 2, H.&T.C. Sur. .....S.D. 5,050 ft.
Scurry County Oil Exchange's No. 1 Earnest, 2,310 ft. from N and W, Sec. 68, Blk. 3, H.&G.N. Sur. .....Spudded and S.D.
Seifert & Dibble's No. 1 T. M. Blackburn, 2,310 ft. from N and 2,310 ft. from W line of Sec. 152, Blk. 97, H.&T.C. Sur. .....S.D. 3,750 ft.

TERRELL COUNTY

Big Bend Oil Co.'s No. 1 Bassett, C NW, Sec. 155, Blk. D, M-K-T Sur. .....S.D. 2,269 ft.
Keck Pecos Trust Co.'s No. 1 Hamilton, C, Sec. 6, Georgetown Ry. Sur. .....S. D. 3,150 ft.; moved off tools.
Miller Bros.' No. 1 Allison & Burke, C NW, Sec. 10, Blk. 176, T.&P. Sur. .....S.D. 120 ft.
Mid-Kansas Oil & Gas Co.'s No. 1 Goode, 2,152 ft. from E and 330 ft. from S, Sec. 26, Blk. 161, G.C.&S.F. Sur..S.D. 6,120 ft.
Jones et al's No. 1 Pankenham, C SE NW, Sec. 43, Blk. B-2, C.C.S.D.&R.G.N.G. Sur. .....S.D. 2,545 ft.
Sides et al's No. 1 Phelps, 2,157 ft. from N and 2,482 ft. from W, Sec. 5, G. W. Hurley Sur. .....Drlg. 570 ft.

TOM GREEN COUNTY

Andrews' No. 1 Pugh, 350 ft. from N and 5,184 ft. from E, James Eldridge Sur. No. 73 .....S.D. 453 ft.
Belding & Dutton's No. 1 Norsworthy, 1,640 ft. from S and 587 ft. from E of John McNeese Sur. .....S.D. 760 ft.; S.O. and gas 725 ft.
Mintex Oil Co.'s No. 1 Campbell Est., 446 ft. from S and 630 ft. from W of Sec. 180, Dist. No. 11, S.P. Sur....S.D. 1,994 ft.
Pratt & Hancock's No. 2 Lewis, 100 ft. N and 330 ft. E of most northerly SW cor. of Joshua S. Grant Sur. No. 2 .....S.D. 200 ft.

VAL VERDE COUNTY

Couch et al's No. 1 J. P. Yoas, 1,300 ft. from the N line and E line of Sec. 31, Blk. 1, I.&G.N. Sur.....Location.
Independent Operators' No. 1 Whitehead, SE SE, Sec. 10, Blk. 4, I.&G.N. Sur., elev. 1,175 ft. .....S.D. 5,360 ft.
O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I.&G.N. Sur., elev. 2,130 ft. .....S.D. 6,780 ft.

WARD COUNTY

Abell Bros.' No. 1 Sloan, 330 ft. from NW and NE, Sec. 24, Blk. 5, H.&T.C. Sur. .....S.D. 2,050 ft.; show oil and gas 2,045-50 ft.
Alpine Oil & Dev. Co.'s No. 4 J. F. Hoogher, 150 ft. from SE line and 150 ft. from the SW line of Tract 16, Sec. 11, Blk. 5, H.&T.C. Sur. .....T.P. 2,155 ft.; S.D. 2,215 ft.; flowing 10 bbls. day.
Buck Sturm et al's No. 2 R. H. Gill, 2,310 ft. from SW line and 330 ft. from SE line, Sec. 25, Blk. B-29, P.S.L. Sur. .....Spudding 50 ft.
Eppenauer's No. 1 Purcell, 365 ft. from SW and 1,650 ft. from SE of Sec. 17, Blk. 34, H.&T.C. Sur.....S.D. 2,583 ft.
H. V. Greer's No. 1 Carr, 150 ft. from NW and 510 ft. from SW, Sec. 12, Blk. 5, H.&T.C. Sur. .....Fishing 720 ft.
Gulf Prod. Co.'s No. 9 Hutchings, 330 ft. from N and 1,650 ft. from W of S 370 acres of Sec. 5, Blk. F, G.M.M.B.&A. Sur. .....Flowed 125 bbls. in 24 hrs.; cleaning out 2,750 ft.
Gulf Prod. Co.'s No. 20 O'Brien, 1,870 ft. from N and 330 ft. from E, Sec. 16, Blk. F, G.M.M.B.&A. Sur.....Drlg. 2,575 ft.
Moran & Burkhart's No. 2 J. T. Sweatt et al, 3,810 ft. from SW, Sec. 1, J. Howe Sur. .....S.D. 821 ft.
Moran & Miles' No. 1 Boogher, 3,603 feet from NE and 1,303 ft. from SE Sec. 11, Blk. 5, H.&T.C. Sur. .....S.D. 610 ft.
R. F. Owen's No. 1 Lee, 1,344 ft. from NW and 4,532 ft. from SW Sec. 1, J. Howe Sur. .....S.D. 560 ft.
Prairie Oil & Gas Co.'s No. 2 Edmonson, 330 ft. from NW and SW of Sec. 23, Blk. 5, H.&T.C. Sur.....
Rector Oil Co.'s No. 1 Smith, 1,320 ft. from N and E, Sec. 22, Blk. A, G.M.M.B.&A. Sur. .....S.D. 2,510 ft.
Sudderth & Carey's No. 1 J. H. Boogher et al, 150 ft. from SW and SE lines of Lot 24, Sec. 11, Blk. 5, H.&T.C. Sur. .....S.D. 290 ft.
Shipley et al's No. 1 Monroe, 330 ft. SE SW, Sec. 3, Blk. 1 .....Flows average of 36 bbls. per day; T.D. 4,666 ft.; to shoot.
Stanolind Oil & Gas Co.'s No. 1 Cannon, 3,300 ft. from SE and 1,649 ft. from NE, Sec. 29, Blk. B-29.....Spudded and S.D.
Stanolind Oil & Gas Co.'s No. 1 Weiss, 300 ft. from NW, 300 ft. from NE of S 100 acres, Sec. 4, Blk. 34.....Drlg. 2,255 ft.
White et al's No. 1 Burtner, 150 ft. from NE and 515 ft. from SE of Sec. 8, Blk. 32, H.&T.C. Sur. .....S.D. 755 ft.

WINKLER COUNTY

Liner Drlg. Co.'s No. 1 Campbell, 350 ft. from N and E cor., Sec. 2, Blk. B-5 .....S.D. 4,640 ft.
Richardson's No. 1 Sealy, 330 ft. from S and W of Sec. 92, Blk. A, G.M.M.B.&A. Sur. .....Drlg. 2,345 ft.
Sid Richardson's No. 1 S. M. Halley, 330 ft. from the S line and 1,650 ft. from the E line, Sec. 25, School Blk. B-12 .....Fishing 1,585 ft.

WILDCAT OPERATIONS IN TEXAS PANHANDLE

(Continued from Page 22)

Prairie Oil & Gas Co.'s No. 1 Pope, 330 ft. from N and E, Sec. 173, Blk. 3, I.&G.N. .....Moving in material.
Saunders et al's No. 2 Sullivan, 822 ft. from W and 231 ft. from NE, 160 ft. S, 264 ac. of N½, Sec. 136, Blk. 3, I.&G.N. Sur. .....Will plug back to 3,275 ft. and shoot.
Skelly Oil Co.'s No. 24 Schaffer, 440 ft. from W, Sec. 172, Blk. 3, I.&G.N. Sur. .....Rigging up rotary.
Skelly Oil Co.'s No. 25 Schaffer, 330 ft. from S and E, Sec. 189, Blk. 3, I.&G.N. .....Rig on ground.
Skelly Oil Co.'s No. 26 Schaffer, 330 ft. from S and W, Sec. 172, Blk. 3 I.&G.N. .....Cellar.
Stanolind Oil & Gas Co.'s No. 2 Waggoner, 330 ft. from N and W, Sec. 172, Blk. 3, I.&G.N. .....Cellar.
Sullivan & Ochiltree's No. 1-A Morse, 330 ft. S and W, N½ NE, Sec. 15, Blk. A-9, H.&G.N. Sur. .....Drlg. 2,835 ft.
Tarber's No. 1 Saunders, 330 ft. N and W, Sec. 3, Blk. 1, B.B.&S.F. Sur. .....Location.
Quicksand Oil Co.'s No. 1 Chapman, 250 ft. from N and

HUTCHINSON COUNTY

Baso's No. 1 Moore, 330 ft. from S and 330 ft. from E, in 80 ac. in NW, Sec. 21, Blk. M-21, T.C.R.R. Sur. ..Rigging up standard tools.
Combination O. & G. Co. and Alspaugh's No. 1 Johnson, 330 ft. from S line, 330 ft. from E line of NW SW, Sec. 4, Blk. Y, A.&B. Sur. .....Bldg. rig.
Danciger O. & R. Co.'s No. 1 Johnson, 330 ft. N and W, SE, Sec. 54, Blk. Y, A.&B. Sur. .....Spudded and S.D.
Deal O. & G. Co.'s No. 2 Sanford, 330 ft. N and E of N 20 ac., S 160 ac., Sec. 81, Blk. 46, H.&T.C. Sur. ...S.D. 450 ft.
Huber Prod. Co.'s No. 1 Johnson Bros. (Premier), 330 ft. N and E of W 60 ac., N 80 ac., NW, Sec. 3, Blk. Y, A.&B. Sur. .....T.D. 3,116 ft; to plug back.
Harry Stekoll's No. 1 Whittenburg, 1,650 ft. from N, 330 ft. from E, Sec. 89, Blk. Z, G.C.&S.F. Sur. .....Rigging up standard tools.
Timms-Deatch's No. 4 Moore, 330 ft. N and W, Sec. 124, Blk. 4, I.&G.N. Sur. .....Rig.

LIPSCOMB COUNTY

Okla. Public Service Co.'s No. 1 C. W. Jones, NE SW, Sec. 100, H.&T.C. Sur. .....T.D. 5,003 ft.

MOORE COUNTY

Dogie Oil Co.'s No. 1 Greenwald, 330 ft. from N and W, Sec. 277, Blk. 44, H.&T.C. Sur. .....Rigging up rotary.
Interstate's No. 1 Nield, C NE, Sec. 18, Blk. 44, H.&T. C. Sur. .....Rig up.
Magnolia Pet. Co.'s No. 1 Nield, 330 ft. from S and E of N½, Sec. 361, Blk. 44, H.&T.C. Sur. .....Drlg. 2,020 ft.
Pollard et al's No. 1 Hall, 330 ft. S and E, NE, Sec. 131, Blk. 6-T, T.&N.O. Sur. .....Rig on ground.
Sunray Oil Co.'s No. 2 Jones, 330 ft. N and W, W½ SW, Sec. 164, Blk. 3-T, T.&N.O. Sur. .....Rig on ground.
Texas Interstate P. L. Co.'s No. 1-23 Thompson, C N½ NE, Sec. 23, Blk. 44; H.&T.C. Sur. .....Location.
Texas Interstate P. L. Co.'s No. 1-37 Sneed, C NW, Sec. 37, Blk. 6-T, T.&N.O. Sur. .....Location.
Texhoma Nat. Gas Co.'s No. 4 Coon "M," C SE, Sec. 103, Blk. 44, T.&T.C. Sur. .....Material on ground.

MOTLEY COUNTY

Matador Oil Corp.'s No. 1 Owens, C NE, Sec. 10, Blk. G, B.&B. Sur. .....S.D. 530 ft.

OLDHAM COUNTY

Amalgamated German-American Oil Corp.'s No. 1 Norton, 330 ft. S and E, Sec. 12, T.&N.O. Sur. .....S.D. 400 ft.
Chambers et al's No. 1 Herring, CNL, Sec. 20, Blk. S, G.C.&S.F. Sur. .....S.D. 3,150 ft. (corrected depth).

PARMER COUNTY

Magnolia Pet. Co.'s No. 1 Wilson, 330 ft. from N and W, SE, Sec. 73, H. Kelly Sur. .....Drlg. 3,020 ft.

ROBERTS COUNTY

Chicken Creek Oil Co.'s No. 1 Ledrick, 330 ft. N and W, Sec. 55, Blk. C, G.&M. Sur. .....Drlg. 2,005 ft.
Travis et al's No. 1 Cunningham, 330 ft. S and W, Sec. 74, Blk. M-2, H.&G.N. Sur. .....S.D. 2,650 ft.

WHEELER COUNTY

Clarity et al's No. 1 Porter, 330 ft. S and W, SE, Sec. 2, Blk. A-9, H.&G.N. Sur. .....S.D. 2,235 ft.
Devore & Robinson's No. 1 Sitter, 2,310 ft. from S and E of E½ of Sec. 33, Blk. 24, H.&G.N. Sur. .....Estimated 30,000,000 ft. gas; T.D 2,263 ft.; S.D.

EAST CENTRAL TEXAS WILDCATS

(Continued from Page 21)

GREGG COUNTY

Arkansas Fuel Oil Co.'s No. 1 C. L. Taylor, 295 ft. from N and S lines and 330 ft. from W line of E 21.94 acres of S 29.76 acres of 114.76-ac. tract, W. H. Castleberry Sur. ..... Testing 3,516 ft.

Atlantic & Pacific's No. 1 Ed Harvey, center of SE one-half of Blk 30, H. R. Hokit Sur. ..... Drlg. 2,411 ft.

Barnsdall Oil Co.'s No. 1 Grant Benson, 330 ft. from S and E lines of 50ac. tr., W. P. Chisum Sur. .... Location.

Barnsdall Oil Co.'s No. 1 Adams, 330 ft. S and E of NE cor. of Shell's Slaton lease, G. W. Hooper Sur. .... Location.

Beard et al's No. 1 J. J. Fuller, 330 ft. from S and W lines of 69.7-ac. tract, M. Alexander Sur. ..... Location.

Brown et al's No. 1 Florence, 150 ft. from N and W lines of 2.58-ac. tract, Mary Van Winkle Sur. ..... Derrick.

Will Brown's No. 1 E. Choice, 400 ft. due east of Collins' No. 1 H. T. Elder ..... Derrick.

Bob et al's No. 1 T. L. Bray, 290 ft. from E and 1,640 ft. from S of H. A. Holdt Sur. ..... Derrick.

M. T. Beeler's No. 1 Finley and Thomas, 150 ft. from N and 150 ft. from W of 10-ac. lease, C. H. Alexander Sur. ..... Derrick.

Byrd-Frost Oil Co.'s No. 1 Alexander and Strong, 330 ft. from S and E lines of 26-ac. tract, M. Tennison Sur. ..... Derrick.

Central Com. Oil Co.'s No. 1 A. A. King, 233 ft. from S and 330 ft. E of NW cor. of 133-ac. lease, M. Tennison Sur. ..... Set 10-in. csg. 96 ft.

E. L. Chapman's No. 1 J. Clayborn, 275 ft. S and 158 ft. W of NE cor. of 4-ac. lease, I. Baty Sur. ..... Derrick.

Danciger Oil & Ref. Co.'s No. 1 S. Ball, located on a 2-ac. tract, Mary Van Winkle Sur. ..... Derrick.

Demotte et al's No. 1 T. L. Bray, center of Blk. No. 8, H. R. Holit Sur. ..... Location.

Dodd and Mariey's No. 1 J. F. Holt, 615 ft. E and 707 ft. N of SW cor. of 200-ac. tract, H. Edwards Sur. .. Derrick.

W. L. Duninger's No. 1 C. C. Stoen, 350 ft. from S and E lines of 59-ac. tract, J. Baty Sur. ..... Derrick.

East Texas Refining Co.'s No. 1 Tom Christian, center of lease, G. W. Hooper Sur. ..... Location.

Empire Gas & Fuel Oil Co.'s No. 1 V. L. Taylor, 330 ft. from N line and 352 ft. from W line of 40.35-ac. lease, M. Tennison Sur. ..... Rig up.

F. H. E. Oil Co.'s No. 1 J. M. Christian, 330 ft. from S line and center of E and W lines of E 7.5-ac. tract, G. W. Hooper Sur. ..... Location.

Faith Oil Co.'s No. 1 Walters, 246 ft. E of W line and 145 ft. N of S line and SW cor. of survey, B. W. Witcher Sur. ..... Location.

Fither et al's No. 1 F. Thomas, 160 ft. from S line and 150 ft. from W line of 10-ac. lease, C. H. Alexander Sur. ..... Spudding.

Glasscock Bros.' No. 1 E. Bade, 157 ft. from S line and 409 ft. from W line of lease, G. W. Hooper Sur. ..... Derrick.

Lewis Godlin's No. 1 E. L. Walker, 330 ft. N of road, 330 ft. from E line of 80.3-ac. tr., M. Dillard Sur. .. Derrick.

Gulf Production Co.'s No. 1 A. King, 120 ft. E and 330 ft. N of SE cor. of church, John Moffit Sur. .... Location.

J. F. Heard's No. 1 fee, 200 ft. SW of Pace's No. 1 Elder, Mary Van Winkle Sur. ..... Moving in material.

D. M. Hester's No. 1 Crews, 299 ft. W and 166 ft. S of SE cor. of William W. Friar Sur. ..... Derrick.

Hankamer and Lee's No. 1 T. W. Lee, 150 ft. from S line and 238 ft. from E line of lease, L. J. Risby Sur. ..... Drlg. 1,140 ft.

D. L. Hoffman's No. 1 B. F. Phillips, 330 ft. from E line and center of N and S lines of 16.5-ac. tract, D. Ferguson Sur. ..... Derrick.

Cox Huffman's No. 1 Johnson, center of Blk. No. 10, Gladewater Townsite, H. R. Hokie Sur. ..... Location.

Imperator Oil Co.'s No. 1 Geo. Ritchie, 120 ft. N and 15 ft. W of Monzell and Currie's No. 1 Church, Blk. No. 4, M. Dillard Sur. ..... Derrick.

Jackson and Bradstreet's No. 1 M. Young, center 2-ac. tr., J. R. Crosby Sur. ..... S.D. 200 ft.

Kroll's No. 1 J. Spear, center ¾-ac. lease, Blk. 4, Mary Van Winkle Sur. ..... Drlg. 2,160 ft.

K. B. Oil Co.'s No. 1 Dickson, 150 ft. from S and 150 ft. from W of 5-ac. lease, Mary Van Winkle Sur. .. S.D. 700 ft.

F. L. Luckel's No. 1 J. B. Doby, 152 ft. from N and S lines and 157 ft. from E and W lines of E 2½ acres of Love 6.6-ac. lease, W. H. Castleberry Sur. ..... Drlg. 3,000 ft.

Lucy Petroleum Co.'s No. 1 B. C. Christian, 330 ft. from W line and center of N and S lines of 8-ac. lease, G. W. Hooper Sur. ..... Location.

McBride's No. 1 F. Elder, 205 ft. N and 320 ft. W of SE cor. of 2½-ac. lease, John Wilkerson Sur. ..... Derrick.

Magnolia Petroleum Co.'s No. 1 Laird-Crim, L. B. Outlaw Sur., E offset to Magnolia Petroleum Co.'s No. 1 Radford ..... Location.

Manzell et al's No. 1 C. H. Moore, center of Blk. No. 3, M. Dillard Sur. ..... Derrick.

Natalie Kimsey's No. 1 C. C. Crews, 330 ft. from N line and center of E and W lines of 60-ac. tr., L. Perkins Sur. ..... Derrick.

Patrick Pet. Co.'s No. 1 Watson, 330 ft. from N line, 330 ft. from E line of lease, M. V. Winkle Sur. .... Derrick.

J. D. Patty et al's No. 1 J. C. McCormick, 307 ft. SE at right angles to Gladewater-Tyler road and 540 ft. SW of Abernathy and Kirkpatrick's No. 1 Gregston, M. Dillard Sur. ..... Derrick.

Pilot Oil Co.'s No. 1 J. C. Bumpass, 330 ft. from S and W lines of 35-ac. lease, W. H. Castleberry Sur. ..... Drlg. 2,700 ft.

Rajo Oil Co.'s No. 1 Barrett, 356 ft. from S line and 330 ft. from W line of Shell's 80-ac. lease, Witcher Sur. .. Location.

Roesser & Pendleton's No. 1 J. M. Farmell, 175 ft. from W line and 330 ft. from S line of 43-ac. lease, D. Sanches Sur. ..... Location.

J. C. Roger's No. 1 John Boyd, center of Blk. 13, Gladewater Townsite, H. R. Hokit Sur. ..... Drlg. 2,430 ft.

Ross et al's No. 1, located on Findley & Thomas 50-ac. tr., 150 ft. from S line and 6.66-ac. lease, C. H. Alexander Sur. ..... Derrick.

Shell Pet. Corp.'s No. 1 B. F. Laird, N offset to Robertson's No. 1 Elder, John Wilkerson Sur. ..... Derrick.

Shell Pet. Corp.'s No. 1 S. C. Fishborn, 330 ft. from N and E lines of 100-ac. lease, F. W. Johnson Sur. .. Location.

Victor C. Smith's No. 1 Knowles, center of Blk. 134, Mary Van Winkle Sur. ..... Location.

Sneed et al's No. 1 Griffin Davis, 28 ft. W and 378 ft. N of SW cor. of Gulf's Davis lease, W. P. Chisum Sur. ..... Drlg. 2,100 ft.

Stanolind Oil & Gas Co.'s No. 1 A. A. Lockhart, 480 ft. from S and E lines of 20.92-ac. tract, M. Tennison Sur. ..... Rigging up.

Sun Oil Co.'s No. 1 Calvin Brown, 330 ft. from most southerly S line and middle of E and W lines of lease, L. B. Outlaw Sur. ..... T.D. 3,629 ft.

Sun Oil Co.'s No. 1 J. E. Rollins, 1,492 ft. from N line, 1,492 ft. from S line, 539 ft. from W and E lines of 35-ac. lease, M. Scott Sur. ..... Waiting on cmt. to set 3,544 ft.

Tom C. Patten's No. 1 Geo. Walter, center of 1-ac. tr., and 396 ft. from W line of lease, Mary Van Winkle Sur. ..... Location.

Travis and Wair's No. 1 A. B. Loughridge, 330 ft. from S line, 590 ft. from E line of 30-ac. lease, Thomas Johnson Sur. ..... Fishing 3,318 ft.

Valentine Oil Co.'s No. 1 Goyne-Hughey, 6,100 ft. from S and 6,800 ft. from W of survey, Mary Van Winkle Sur. ..... Rigging up.

Woodley Petroleum Co.'s No. 1 D. B. Harris, 150 ft. S of highway and 1,050 ft. from E line of survey, W. H. Castleberry Sur. ..... Waiting on cmt. to set 3,500 ft.

HENDERSON COUNTY

Alma Pet. Co.'s No. 1 T. B. Woodford, located on 529.5-acre tract, 2,500 varas from W line and 1,050 varas from N line of survey, Boly C. Walters Sur. ..... Waiting on cmt. to set 4,006 ft.

South American Drlg. Co.'s No. 1 D. R. Broone, 330 ft. from N and W lines of SE 40 acres of 425-ac. tr., Thomas Parmer Sur. ..... S.D. 4,374 ft.

HILL COUNTY

Sherman-Houseman's No. 1 J. F. Griffith, in Samuel Waddell Sur. ..... Fishing 3,256 ft.

HOPKINS COUNTY

E. L. Chapman's No. 1 J. D. Jumper, 175 ft. from N line, 285 ft. from W line of lease, Jas. Webb Sur. .. S.D. 230 ft.

Roark et al's No. 1 Taylor, 220 ft. from N and W lines of 80-ac. tr. in the John Polk Sur. ..... S.D. 540 ft.

HOUSTON COUNTY

Apex Drlg. Co.'s No. 1 Thompson Bros., 250 ft. out of NW. cor. of 200-ac. tr. in John Shears Sur. ..... T.D. 2,364 ft.

Ramsland and Ramsland's No. 1 Pennington, 750 varas W of E line and 500 varas from S line of survey on 156-ac. tr., Ramond LaGarza Sur. ..... S.D. 1,692 ft.

C. T. McManus' No. 1 Harron, 300 ft. out of NE cor. of 327-ac. tr., J. P. Procella Sur. ..... Spudded and S.D. 37 ft.

HUNT COUNTY

Branson et al's No. 1 Gray ..... Location.

Russell et al's No. 1 Brooks and Quattlebaum ..... S.D. 1,455 ft.

KAUFMAN COUNTY

Hoffpier et al's No. 1 Kaufman County Farm, 210 ft. from N line, 672 ft. from W line of 524-ac. tract, D. Falcon Sur. ..... Derrick.

Standy Darnell et al's No. 1 Sally Pannill ..... S.D. 1,260 ft.

LAMAR COUNTY

G. W. Davy et al's No. 1 McGustion, 450 ft. from S line, 450 ft. from W. line of farm and survey, Galet Wood Sur. ..... Drlg. 2,500 ft.

Optometrist Oil Club's No. 1 J. M. McFadden, 450 ft. from S and W lines of McFadden E 25-ac. tr., J. Deck Sur. ..... S.D. 1,840 ft.

LEON COUNTY

Cooper et al's No. 1 Lynch, 4,000 ft. from W line and 250 ft. from S line of Thos. H. Gardner Sur., and in 200 ac. tr. ..... S.D. 1,931 ft.

Salzer Drlg. Co.'s No. 1 Dr. J. M. Blair, 1,010 ft. from N line, 1,986 ft. from W line, Sec. 19, Blk. E, Lucia Hibbard Sur. ..... Derrick on ground.

Sun Oil Co.'s No. 2 Grayson ..... S.D. 6,018 ft.

MORRIS COUNTY

Dumas et al's No. 1 Tom Ball, 1,046 ft. from E and 248 ft. from S of 71-ac. tr., A. S. Young hrs. Sur. .. Derrick.

NACOGDOCHES COUNTY

Bunte et al's No. 1 A. F. Boatman, 330 ft. from S and 150 ft. from W of 67-ac. tr., Wm. A. Moore Sur. .... S.D. 1,605 ft.

G. A. Teague's No. 1 Norris, 60 ft. NW of E line and 420 ft. S of road in 73.5-ac. tr., Hosea Y. Barbo Sur. . Derrick.

Gainer et al's No. 1 Nice Well, 18 miles SE of Nacogdoches, 600 ft. from S and 150 ft. from W of Wells tract in A. Cherino Sur. ..... S.D. 3,430 ft.

Joiner and Henson's No. 1 Andy Legg, 330 ft. from N and 330 ft. from W of tract, John Durst Sur. ..... S.D. 3,920 ft.

Scully & Harwell's No. 1 R. I. Driver, 1,500 ft. from SE cor. of P. B. Ballard 125-ac. tr., 15 miles SE of Nacogdoches in Patricia De Torres Sur. ..... Drlg. 3,316 ft.

Taylor-Vaughn's No. 1 Dixon Greer, 160 ft. from W and 450 ft. from N lines of 60-ac. tr. in the M. G. Horrers Sur. ..... S.D. 265 ft.

Creighton Drlg. Co.'s No. 1 J. N. Stewart, center of 79-ac. tr. in the Jose Ignacio Y'Barbo Sur. ..... S.D. 3,226 ft.

POLK COUNTY

Sunshine Oil Co.'s No. 1 Brawley, 150 ft. from S line and 250 ft. from E line of W 100 acres of lease, F. Johnson Sur. ..... Location.

RAINS COUNTY

C. H. Baylias' No. 1 Ownby, 150 ft. N and 1,100 ft. from E of most easterly SE cor. of survey, Alexander Sur. ..... S.D. 4,036 ft.

RED RIVER COUNTY

Droppleman and Bundy's No. 1 J. W. Cunningham, 250 ft. from the S and 1,066 ft. from the E lines of B. M. Ballard Sur. ..... Rig up.

Gibbs et al's No. 1 Mace (old well being drilled deeper), 1,200 varas from S line, 1,500 varas from E line of survey, Wm. Cullam Sur. ..... S.D. 3,500 ft.

Hoffman and Henson's No. 1 H. H. Lennox, 2,790 ft. W and 300 ft. S of most easterly NE cor. of survey, J. E. Edmondson Sur. ..... S.D. 60 ft.

Harris & Joiner's No. 1 E. Howison, 225 ft. S, 185 ft. W of 79-ac. tr., Wm. Humphreys Sur. ..... S.D. 1,940 ft.

Concord Oil Co.'s No. 1 J. R. Dellahunty, 500 ft. from N of Isaac Moore Sur. and 200 ft. E of E line of Robert Glass Sur. ..... Drlg. 2,530 ft.

L. G. Priest's No. 1 J. M. Stiles, 900 varas S and 500 varas E most northerly NE cor. of Jones Bankston Sur. in the Levi Dean Sur. ..... S.D. 1,100 ft.

ROCKWALL COUNTY

Bucanner Oil Co.'s No. 1 H. L. Lofland, center of 69-ac. tr. in W. M. Bird Sur. ..... Set 10-in. csg. 120 ft.

RUSK COUNTY

C. L. Archer's No. 1 J. H. Stewart, center of 2-ac. tract, E. Thompson Sur. ..... Drlg. 3,575 ft.

Barney Carter's No. 1 Jessie Cole, 225 ft. from N line and 160 ft. from E line of 5-ac. tract, D. Shaw Sur. ..... Derrick.

S. P. Borden's No. 1 T. G. Mason, center of 3.5-ac. lease, J. B. DeCadena Sur. ..... Drlg. 3,649 ft.

S. P. Borden's No. 1 R. G. Mason, center of 7.5-ac. lease and 286 ft. N and W of NE cor. of Magnolia's Moore tract ..... Location.

Byrd-Frost's No. 1 Buckner, J. E. Peyton Sur. ..... S.D. 2,981 ft.

Everts Drilling Co.'s No. 1 Beasley, 230 ft. from SE line and 150 ft. from E line of tract, T. C. Lloyd Sur. ..... Rig up.

Gulf Production Co.'s No. 1 J. W. Shaw, 330 ft. from S and W lines of 89.8-ac. tract, F. Cordova Sur. .... Moving in.

Hale and Hatchfield's No. 1 C. J. Goforth, 625 ft. from S line and 450 ft. from W line of 13.4-ac. tract, M. J. Pru Sur. ..... Rig up and S.D.

Hathaway et al's No. 1 Gray, J. M. McLain Sur. ..... S.D. 3,206 ft.

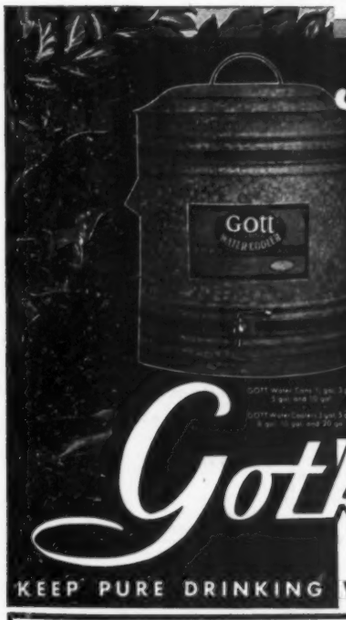
H. E. Hilden's No. 1 Varney, 100 ft. from N line, 125 ft. from E line of road, W. G. Tutt Sur. ..... Derrick.

Holland et al's No. 1 S. E. Brox, 330 ft. from N line and 250 ft. from W line of 20-ac. lease, Thomas Grey Sur. ..... Derrick.

Howell's No. 1 Irion and Motley, 300 ft. from N line, 1,270 ft. from W line of survey, J. Lindley Sur. .... Waiting on surface cmt. to set.

Humble Oil & Refining Co.'s No. 1 E. W. Naulls, 330 ft. from S and W lines of 73.5-ac. tract, T. J. Martin Sur. ..... Rigging up.

A. W. Jones Oil Co.'s No. 1 J. M. Grant, 346 ft. from S line, 1,076 ft. from E line of 100-ac. tr., T. J. Walling Sur. ..... Fishing 2,410 ft.



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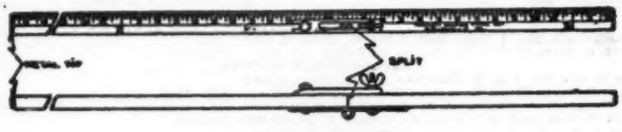

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2-4-32

La. O. & R. Co.'s No. 1 Jernigan, 330 ft. from S line, 1,023 ft. from W line of 100-ac. lease, McCabe Sur.. Drlg. 2,255 ft.
LaSalle-Davenport and Bledsoe's No. 1 Church, 175 ft. S and 175 ft. E of SE cor. of Sun-Schuler joint lease, J. B. DeCadena Sur. ..... Moving in material.
Moss and Urschel's No. 1 H. L. Griffin, 200 ft. from N line and 150 ft. from W line of 20-ac. lease, Juan Ximenes Sur. ..... Waiting on surface cmt. to set.
Mid-Kansas Oil & Gas Co.'s No. 1 H. C. Burton, 1,375 ft. from S line and 330 ft. from E line of 59.5-ac. lease, W. D. Porter Sur. ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 1 H. C. and G. W. Burton, 460 ft. from N line and 330 ft. from E line of survey, W. D. Porter Sur. ..... Location.
Mid-Kansas Oil & Gas Co.'s No. 1 W. T. Grissom, 330 ft. from N line, 330 ft. from W line of lease, J. B. Brown Sur. ..... Waiting on surface cmt. to set.
Albert Nathan's No. 1 Deason, center of 5-ac. tract, Juan Ximenes Sur. ..... Drlg. 3,703 ft.
Overton Ref. Co.'s No. 1 fee, 105 ft. NW of Patton Rhodes' No. 1, F. Cordova Sur. ..... Waiting on cmt. to set 3,808 ft.
Geo. L. Pace's No. 1 E. B. Alford, center of 5-ac. lease, T. J. Moore Sur. ..... S.D. 675 ft.
J. T. Reese's No. 1 Marshall Clay, 330 ft. from N and W line of 65-ac. lease, Juan Ximenes Sur. .... Rig up and S.D.
Ross Seward's No. 1 Burton, J. J. Y'Barbo Sur. ..... Fishing 3,071 ft.
Shasta Oil Co.'s No. 1 H. Alexander, 330 ft. from N and W lines of 30-ac. lease, T. Grace Sur. ..... Drlg. 3,687 ft.
R. E. L. Silvey's No. 1 P. G. Warren, 155 ft. from S line and 96 ft. from E line of 44-ac. tract, John Womack Sur. ..... Location.
Sinclair Oil & Gas Co.'s No. 1 W. H. McCord, 144 ft. from N line and 330 ft. from W line of lease, J. B. DeCadena Sur. ..... Rig up.
Stanolind O. & G. Co. and Pure Oil Co.'s No. 1 R. A. Moores, 330 ft. from S line, 2,378 ft. from W line of 210-ac. tr., J. B. DeCadena Sur. ..... T.D. 3,612 ft. in sand.
Stanolind and Pure Oil Co.'s No. 1 Rass Lacy, 330 ft. from N and E lines of 100-ac. tract, J. H. Sparks Sur. ..... Cored chalk and shale 3,593 ft.
Sullivan and Burch's No. 1 E. B. Alford, 550 ft. W, 150 ft. S of NE cor. of 78.75-ac. tr., Isaac G. Parker Sur. ..... Drlg. 3,690 ft.
The Texas Company's No. 1 W. W. Henry, 330 ft. from S and E lines of 229-ac. tract ..... Waiting on cmt. to set.
M. L. Thompson's No. 1 Price, Hugh Million Sur. ..... S.D. 3,280 ft.
Tulsa Oil Co.'s No. 1 J. R. Iron, 330 ft. from S line and 343 ft. from E line of lease, John Womack Sur. ..... Failed to flow 3,802 ft.

JOINER POOL—RUSK COUNTY

Armstrong's No. 1 Alford, 151 ft. from S and 1,080 ft. from W of survey, T. J. Moore Sur. ..... Derrick.
Paulett et al's No. 1 Ed Sparks, 350 ft. from E, 150 ft. from S of survey, L. C. Riggs Sur. ..... Bailed dry after small show of gas: T.D. 1,313 ft.

SAN AUGUSTINE COUNTY

Smith and Baker's No. 1 Pickering Lbr. Co., 6 miles N of San Augustine, E. Quick Sur. ..... Derrick.

SMITH COUNTY

Bunte et al's No. 1 Atkinson, 1,000 ft. from S line and 1,000 ft. from N line of 330-ac. tr., Calloway Dean Sur. ..... Derrick.
Joiner et al's No. 1 C. S. Jackson, 500 ft. from N and 500 ft. from W of 39.88-ac. tr., Henry Mickleborough Sur. ..... Waiting on cmt. to set 3,135 ft. (corrected).

TITUS COUNTY

Perry V. Cook's No. 1 M. C. Rogers, center of SW of Moore Sur. ..... Coring 3,406 ft.
Joiner et al's No. 1 Clayton Brown, 1,300 ft. from E and 400 ft. from most northerly S line of V. Evans Sur... S.D. 2,250 ft.

UPSHUR COUNTY

L. G. Bradstreet et al's No. 1 O. M. Victory, 330 ft. from N and E lines of 10-ac. lease, E. A. J. Evans Sur. ..... Location.
Cranfill & Reynold's No. 1 Milton Rash, 1,687 ft. E of W line and 330 ft. N of S line of Rash estate, E. N. Eubanks Sur. ..... Swabbed 100 per cent salt wtr.; T.D. 3,728 ft.
Danciger Oil & Ref. Co.'s No. 1 Stinchomb, 1,110 ft. from S line and 350 ft. from W line of lease, Marshall Mann Sur. ..... Waiting on cmt. to set 3,747 ft.
E. & D. Oil Co.'s No. 1 J. W. Free, 200 ft. N and 394 ft. W of SE cor. 20.5-ac. Free tract ..... Location.
Falvey et al's No. 1 S. D. Rodden, 227 ft. from N line and 330 ft. from E line of 20-ac. lease, M. Mann Sur. ..... Location.
Gillett-Tarr and Potter's No. 1 D. A. Irion, 330 ft. from N line and center of E and W line of tract, D. A. Lucas Sur. ..... T.D. 2,747 ft.
H. C. Hurley's No. 1 W. F. Smith, 330 ft. from E line and center of N and S lines of S 25 acres of W 50 acres of 100-ac. tr., J. Pineda Sur. ..... Rig up.
Jackson and Bradstreet's No. 1 Victory, center of 25-ac. lease, E. A. J. Evans Sur. ..... Waiting on cmt. to set 3,585 ft.
J. W. Love's No. 1 Bain, 200 ft. from N line, 2,092 ft. from W line of survey, W. H. Williams Sur. ..... S.D. 3,798 ft.
Stanolind Oil & Gas Co.'s No. 1 Arthur Newsom, 900 ft. from S line and 990 ft. from E line of 32.33-ac. tract, Calvin Anderson Sur. ..... Cored to 3,839 ft. to test.
Steen Drlg. Co. and Shell Pet. Corp.'s No. 1 J. F. Phillips, 330 ft. out of most southerly SE cor. of 94-ac. tract, J. M. Pineda Sur. ..... Waiting on cmt. to set 3,652 ft.
L. E. Trout et al's No. 1 O. M. Victory, 330 ft. from S and E lines of 60-ac. lease, E. A. J. Evans Sur. .... Derrick.
Wolf's No. 1 Cook, center of 115-ac. tr. in Jacob Walker Sur., 5 miles W of Rosewood ..... S.D. 1,100 ft.

VAN ZANDT COUNTY

Barton et al's No. 1 C. L. Hubbard, 600 ft. out of NE cor. of Hubbard 225-ac. tr., 3½ miles S of Canton, M. J. DeCadena Sur. ..... S.D. 2,104 ft.
Kelly O. & G. Co.'s No. 1 Lemsford, center of Lemsford tr., John Conner Sur. ..... S.D. 2,300 ft.
Thomasson, Inc.'s No. 2 W. P. Forster, 400 ft. from N and 450 ft. from E of SW cor. of Forster 151-ac. tr. in the F. Montgomery Sur. ..... S.D. 3,200 ft.
Priest et al's No. 1 B. G. Beckham, 150 ft. from S line, 33 ft. from W line of 100-ac. tr., A. S. Johnson Sur.. Coring 4,958 ft.
Pure Oil Co.'s No. 3 Mrs. C. White, 250 ft. E of W line, 250 ft. S of N line, John Walling Sur. ..... Derrick.
Pure Oil Co.'s No. 1 D. F. Cade, 250 ft. N of S line of 45.3-ac. tract in Nacogdoches County School Land Sur. ..... Coring 1,065 ft.
Pure Oil Co.'s No. 1-T V. T. Davis, 400 ft. N of N line of Tunnell No. 8 lease, 480 ft. W of E line of survey, Nacogdoches County School Land Sur. ..... Drlg. 6,590 ft.
Pure Oil Co.'s No. 9 F. B. Smith, 1,180 ft. E of W line and 150 ft. N of S line, John Walling Sur. ..... Drlg. 104 ft.
Pure Oil Co.'s No. 2 J. T. Petty, 300 ft. SE of most northerly NW cor. of H. C. Gilbert lease, Nacogdoches County School Land ..... Location.
Van Oil Association's No. 1 Tankersley, 200 ft. from E and 1,000 ft. from S of farm, L. Landers Sur. ..... S.D. 2,850 ft.

WOOD COUNTY

Talko Oil Co.'s No. 1 G. T. Ross, B. L. Smith Sur. ..... S.D. 1,550 ft.
Wood County Dev. Co.'s No. 1 Davis, approximately 180 ft. from S line of 160-ac. tr. and 2½ miles S of Kantes in Sarah McDonald Sur. ..... Moving in rig.
Yankee Oil Co.'s No. 1 Davis, 330 ft. from S of SW cor. of M. Ryan, Jr. Sur. ..... Rigging up.

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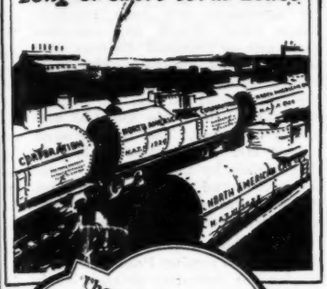

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Read the Classified Ads on pages 56 and 57

OKLAHOMA FIELDS

(Continued from Page 29)

control the next day. Connections were damaged some time ago.

New producers added to the field include Slick-Urschel's No. 5 Terminal, SW cor. NW, Section 3-11-3w, which flowed 1,407 bbls. of oil the first hour. The gas was estimated at 25,000,000 feet a day. The production was found in the Wilcox sand at 6,362-6,500 feet.

Troops Watch Well

During the week Governor Murray ordered 10 enlisted men and three officers of the state national guard to patrol the Marshall Oil Co.'s Buxton lease in Section 10-11-3w, in the Oklahoma City Field. It was alleged that the company planned to produce the well in violation of the proration rules. The troops were ordered out after a petition had been presented to the governor by the umpire's committee.

The Marshall Oil Co.'s No. 1 Buxton has been shut in, serving its 65-day shutdown time. The proration time expires around February 15. It is alleged that a week ago, after the well had completed its eight-hour initial production test, the company continued to flow the well regularly, although it never had an adjusted potential test. The umpire's committee ordered the pipe line connections to the tanks disconnected. The well was shut in when the tanks were filled.

During the week the Corporation Commission fixed the potential of the Century Petroleum Co.'s No. 1 Wyatt, NE cor. NW, Section 2-11-3w, at 10,730 bbls. a day. The company petitioned the commission for an adjusted potential and was granted 25 per cent of its last gauged potential.

The underproduced and underrun oil totaled 3,350,000 bbls. as of January 21. In the Oklahoma City Field there were 750 wells outside of the lime area eligible for production, but some of these are shut down serving proration time or are overproduced. Of these only 606 wells are eligible for allowed production in February. These 606 wells have an adjusted potential of 2,969,678 bbls. daily. There were 79 wells making 3 per cent or more water and it is expected there will be 81 wells during February.

Shut Down in New Pool

A 60-day suspension of drilling activities was agreed upon in the Sacred Heart Pool, in southern Pottawatomie County, by owners of leases in the area, adjacent to the discovery well by the Carter Oil Co. and others' No. 1 Monett, SW cor., Section 35-7-4. The truce will delay the starting of new wells until around the first of April.

The Carter Oil Co. and others own the direct offset to the east of the discovery well located in the SE cor., Section 34-7-4, the Amerada Petroleum Corp. owns the southwest offset, located NE cor., Section 3-6-4, and the Indian Territory Illuminating Oil Co. the direct south offset, the NW cor., Section 2-6-4.

An effort is under way to bring into the agreement other acreage nearby that would force the drilling of tests within two to four locations from the discovery well.

The discovery well is still taking potential tests and it may be drilled deeper. The well swabbed 297 bbls. of oil in eight hours from the Simpson sand at 4,170-4,260 feet.

Mid-Continent Petroleum Corp.'s No. 1 Farmer, SE cor. SW NW, Section 2-6-4, is being plugged back after failing to find production in the Simpson or Wilcox sand. The 6-inch casing is being pulled to test a showing of oil in the Hunton lime. The total depth of the test was 4,431 feet.

Carr City Development

The drilling campaign in the Carr City Field in Seminole County is nearing completion, several of the tests showing for producers. It is believed that further drilling in the area may be delayed until spring. Amerada Petroleum Corp.'s No. 5 Tiger, NW cor. SE NW, Section 3-8-5, swabbed 136 bbls. of oil in 22 hours from the Wilcox sand. Same company's No. 4 Tiger, had Wilcox sand at 4,146-60 feet, and swabbed 50 bbls. of oil in three hours.

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Gypsy Oil Co.'s No. 2 Tiger, NE cor. SW NW, Section 3-8-5, found the Wilcox sand at 4,191-96 feet. Fluid rose 700 feet in the hole.

Amerada Petroleum Corp.'s No. 3 Tiger, NE cor. SW NW, Section 3-8-5, flowed 1,655 bbls. of oil the first day and 1,927 bbls. the second day, from a total depth of 4,120 feet in the Viola lime.

Prairie Oil & Gas Co.'s No. 3 Hassman, NW cor. SE NE, Section 3-8-5, swabbed 124 bbls. in 24 hours from the Hunton and Misener sand at a total depth of 4,101 feet.

In the area south of the Sasakwa Pool, in Seminole County, the Stanolind Oil & Gas Co. has been blocking leases after a seismograph survey. Part of the acreage in the block includes leases in Sections 11-5-7, 2-5-7, 5-5-7, and 7-5-7.

In the Okemah area of Okfuskee County, Cole & Verson purchased from the Tidal Oil Co. the NW, Section 14-11-10, on which is one producing well in SE cor. NW. The daily average production of the well is 12 bbls. a day from the sand at 3,200-12 feet.

Hilton Phillips and others' No. 1 Phillips, SW cor. NW, Section 2-14-3, Lincoln County, was abandoned after losing the hole at 4,840 feet. The owners after trying to drill by iron lost in the hole decided to skid the rig and drill a new hole.

Atlantic Oil Producing Co. has rig up for No. 1 Bebee, NE cor. SW SW, Section 32-13-6, Lincoln County. Barnsdall Oil Co.'s No. 1 Taylor, C SW NW, Section 17-14-3, Lincoln County, was drilling at 4,285 feet. The top of the Mississippi lime was found at 4,270 feet. The Wooford is expected at 4,450 feet.

Bryan County

Bryan Oil Co.'s No. 1 Childs, NE cor. SE SW Section 8-7s-10, is a dry hole at 660 feet.

Creek County

Seth Hearndon and others made location for No. 1 Harrison, NW cor. SE SW Section 18-14-9. Doak & Hughes moved a machine in for No. 1 Strip, SW cor. NW Section 18-14-9. J. B. Grieves' No. 10 Lowe, NW cor. SE NE Section 13-19-8, has been completed for 60 bbls. in Skinner sand at 2,124-62 feet.

Latimer County

H. E. Dowd and others' No. 2 Hembree, SE cor. NE Section 17-3-22, has been completed for 1,000,000 feet of gas in sand at 1,174-1,248 feet.

Oklahoma County

Refiners Production Co.'s No. 1 M-K-T, SW cor. SE SW SE Section 34-12-3w, Oklahoma City Pool, is a rig on the ground. T. B. Slick Estate made location for No. 4 Frisco, NW cor. SE Section 3-11-3w. No. 12 Classen-Edwards, SE cor. SW SW Section 3-11-3w, is a location. R. A. Wallace and others' No. 1, Block 4, Richolson Heights addition, SE cor. SW NW SE Section 22-11-3w, is a cellar. Continental Oil Co. and Anderson and Kerr's No. 1 St. Louis, NE cor. NW SW SE Section 34-12-3w, has been completed for 5,959 bbls. in four hours from Wilcox sand at 6,297-6,510 feet. Phillips Petroleum Co.'s No. 1 Gallman, CNL NE NW NE Section 3-11-3w, has been completed for 6,640 bbls. in three hours at total depth of 6,482 feet.

Okmulgee County

J. H. Rebold's No. 1-A W. Jones, SE cor. SW SW NW Section 28-13-11, is drilling at 1,400 feet. No. 1 J. Daniel, NE cor. NW NE Section 1-12-13, is a machine. W. B. Pine's No. 1 A. Bradford, CNL SE NE Section 1-12-13, has been deepened and completed for 133 bbls. in sand at 2,736-39 feet.

Osage County

W. H. Twyman and others moved a machine in for No. 3, SE cor. NW NE SW Section 32-22-8. P. E. Voyles' No. 4 SW cor. NE Section 3-25-8, has been completed for 7 bbls. in Burgess sand at 2,368-80 feet after plugging back from 2,424 feet.

Payne County

Deep Rock Oil Corp.'s No. 1 Little Chief, NW cor. NE Section 4-18-5, has been completed for 8 bbls. in sand at 3,009-3,031 feet.

Pittsburg County

Midwestern Oil & Gas Co.'s No. 2 Mattocks, C NE NE Section 8-7-18, has been completed for 12,000,000 feet of gas in sand at 1,884-2,124 feet.

Pontotoc County

Stanolind Oil & Gas Co.'s No. 1 Burk "C," SW cor. NE Section 32-5-5, made 150 bbls. in sand at 2,342-2,405 feet.

Seminole County

Amerada Petroleum Corp.'s No. 3 L. Tiger, NE cor. SW NE Section 3-8-5, Carr City Pool, flowed 1,927 bbls. from Misener sand topped at 3,982 feet, and Hunton lime topped at 4,008 feet, total depth 4,120 feet. Burke-Greis Oil Co. and others' No. 1 Catlett, SW cor. Section 20-7-8, has been completed for 1,737 bbls. in Wapanucka sand at 3,045-3,106 feet.

Stephens County

George L. Pace and others' No. 1 Mullins, SW cor. Section 35-2s-5w, is dry and abandoned at 1,508 feet.

Seminole Production

The production from the Greater Seminole Field for the week ending January 30 was approximately 132,605 bbls. a day. The Seminole Field, which includes the first 12 pools listed below, averaged 95,565 bbls. daily.

Pool—	Bbls.
Little River	17,110
East Little River	4,110
Carr City	9,915
Maud	1,920
Mission	6,150
Bowlegs	11,070
Earlsboro	12,190
South Earlsboro	1,580
East Earlsboro	11,730
Seminole	16,000
Searight	2,845
East Seminole	945
	95,565
Allen	9,730
Asher	650
Wanette	2,635
Konawa	5,145
Sasakwa	1,680
St. Louis-Pearson	17,200
	132,605

MANY TAX PROTESTS RECEIVED BY SENATORS

(Continued from Page 12)

souri Oil Men's Association, of Kansas City, Mo., writes to Senator Capper on behalf of the entire membership of his association protesting against "the unwarranted increase" in gasoline taxation in the capital from 2 to 4 cents.

"We believe," says President Allee, "that a 2-cent per gallon tax is the maximum that should be levied against this product. There is a limit beyond which taxation becomes tragedy; a tragedy of confiscation of property, ruination of industry and destruction of employment. That limit has been reached in gasoline taxation.

"Declining prices for gasoline no doubt explain the public acquiscence so far in so startlingly rapid an increase in the taxation laid upon its use. A reversal of marketing conditions or even a period of stability, especially if coupled with a tighter grasp on the tax collector, would tell another story."

"No other product carries such a burden of sales taxation as does gasoline," declares J. W. Russell, of The Texas Company, writing from Wichita, Kans.

"The total gasoline tax paid in the United States in 1930 was $494,000,000," says Mr. Russell in his letter to Senator Capper. "Owing to increase in eight other states in 1931 it will be from $550,000,000 to $600,000,000. If it were proposed to levy such a tax on the product of any other industry it would bring a revolt.

"The petroleum industry seems to be the goat. If any one wants more money the gasoline tax is hiked. If we can't stop this we will be taxed out of existence. The theory that the consumer pays is all 'bunk.' You can't pass on a tax of 33 per cent to 50 per cent of the retail price of the product. It must be passed back to the producer in whole or in part. A 2-cent tax, which is more than 10 per cent of retail price, is too high. A universal sales tax of 2 per cent would bring on a revolt, but gasoline carries a sales tax of from over 10 per cent in the lowest states to over 50 per cent in the highest.

"This tax is exorbitant and unjust. I therefore urge that you oppose the increase in the District of Columbia which has already been voted by the House. In the effort of the oil industry to stop the increase of this tax throughout the nation, it would be a serious blow for the national Congress to increase it in the District of Columbia."

Letter from W. N. Davis

From William N. Davis, president of the Mid-Continent Oil and Gas Association, has been received a letter saying that although the members of the Mid-Continent Oil and Gas Association may not be directly engaged in the marketing of gasoline in the District of Columbia, as president of the association he strongly opposed this legislation because such action by the Federal Government would establish a precedent and exercise a far-reaching influence throughout the entire United States.

"The experiences of the several states," adds Mr. Davis, "have definitely proven that the law of diminishing returns begins to be felt when gasoline taxes exceed 2 cents per gallon, and that from 3 cents upward the revenue decreases more and more rapidly. Moreover, the widespread and ever increasing tax evasion which results places the honest merchant of gasoline, honestly paying his taxes, at a hopeless disadvantage in competing with the tax evader. The latter having a differential in his favor of the amount of his tax, may cut the price below any figure the honest dealer can meet and still may have a large share of his illegal gains with which to corrupt the officials involved in the tax collection. The high tax becomes a subsidy to organized law breaking.

"So long as Oklahoma had a 3-cent tax, collections were reasonably satisfactory. With an increase to 4 cents, tax evasion began, and a further increase to 5 cents caused a decrease in July, 1931, as compared with July, 1930, from $1,097,000 to $629,000. Similar figures could be cited from all states that have increased their gasoline tax to 4 cents or above.

"This gasoline tax evasion has developed into a racket second only to that involved in bootlegging liquor, and the demoralization of the oil industry is largely increased. It has become obvious that the collection of these excessive taxes is practically impossible and that evasion continued on the present scale will make it impossible to maintain a reasonable and fair price structure for the oil industry."

Mr. Davis concludes by hoping the Federal Government will not establish a precedent and extend its influence throughout the entire country in favor of an excessive gasoline tax.

ROCKY MOUNTAIN AREA

(Continued from Page 57)

trict, after landing the 6⅝-inch at 2,599 feet, shut down to clean boiler.

WYOMING

All interests in the properties of the Glenrock Oil Co. in the Pilot Butte and Salt Creek Fields were sold at auction the last week to satisfy a judgment of the Federal District Court at Cheyenne for $215,233 held by the Argo Oil Co. They were bid in by James R. Jones, general counsel for the Argo company. About three years ago the Argo company took over several companies and merged the assets into the one organization. It owned 37 per cent stock interest in the Glenrock company, which continued to operate as a subsidiary and to which it advanced supplies, equipment and cash. A year ago it sued in the Federal Court at Cheyenne and obtained a judgment for $146,233 on a first cause of action for materials, equipment and labor and another for $69,000 on a note. The Salt Creek properties sold under the foreclosure included a 60 per cent interest in a lease in the N half, Section 16-39-78, which sold for $2,500; a 50 per cent interest in the S half of the same section, which sold for $2,700; and a 25 per cent interest in a government lease on the SE, Section 17-39-78, which brought $2,000. The Pilot Butte properties were bid in for $32,000.

Negotiations are pending between operators and leaseowners in the Big Muddy Field looking to the adoption of a standard drilling program which will eliminate unnecessary offsets and compensating royalty for drainage. So far no agreement has been reached. The State Land Board has approved the plan and is reported desirous of bringing about its adoption. The companies having production in the field include the Continental Oil Co., the Midwest Refining Co., the Ohio Oil Co. and The Texas Company. The Lakota sand was proven last year in two wells drilled to that horizon by the Ohio and Continental companies, and when conditions warrant it, there are several locations available to be drilled to the deeper pay.

The Illinois Pipe Line Co. has petitioned the Wyoming Public Service Commission for authority to abandon its 44-mile 8-inch line from Salt Creek to Casper. It was constructed at a cost of $1,000,000 about 12 years ago when Salt Creek was at the peak of its development.

Natrona County

The Midwest Refining Co.'s No. 11, SE NW NW, Section 32-34-77, on the Geary Dome, which was shut down a year ago at 5,340 feet after going through the second Wall Creek, has resumed and is drilling at 5,374 feet in black shale. The 9⅝-inch is cemented at 5,331 feet. The third member of the Wall Creek will be tested under 5,500 feet, if it is in place, after which drilling to the Dakota series will continue. Sidney H. Keoughan and associates recently took over the interests of the Midwest, Salt Creek Producers and Mountain Producers companies on the Midway, Geary and North Geary Domes, but under the agreement the Midwest is to complete the Geary test.

Washakie County

The Ohio Oil Co.'s No. 1 Strothers, SW SE NW, Section 19-45-92, Neiber Dome, which plugged back from the Sundance at 8,596 feet to test the second Frontier at 7,356-68 feet, ran a 5-inch liner and cemented, but the cement, after two attempts, failed to hold. It will cement back up to the 7-inch at 7,260 feet and drill out in a further effort to make a test of the sand.

Park County

The Midwest Refining Co.'s No. 4 Rosenberg, NE NW NE, Section 26-58-98, Frannie Dome, is drilling at 1,880 feet, with rotary.

Johnson County

The Kaycee Dome Syndicate's No. 3, C SE SE, Section 4-43-82, Kaycee district, has plugged and abandoned the test, but equipment remains on the ground. It tested the Madison lime, which was topped at 2,150 feet.

MONTANA

John H. Hamilton, of Great Falls, who was appointed receiver for the Sunburst Oil & Refining Co. by United States District Judge Charles N. Pray last November, on the application of the General American Tank Car Corp., has announced that he is now ready to entertain proposals for the development of the acreage of the company, totaling between 65,000 and 70,000 acres, in the Kevin-Sunburst and Sweetgrass Hills areas. These include some proven and semiproven blocks on eight structures. Also, the company's 5,000-bbl. refinery at Great Falls is subject to lease or outright sale. All deals are subject to the approval of the court.

The Montana Producers Purchasing Co., Inc., which was organized by 14 independent producers in the Kevin-Sunburst Field to take charge of the oil, arrange to refine and sell the product and account for each member's share in the whole, has completed its first year of business. It made a contract with the Shelby Pipe Line & Refining Co. (later consolidated with the Northwest Stellarene Co.) to refine and sell the oil at their Shelby refinery. This organization was a development of conditions arising out of an oversupply of crude in the Kevin-Sunburst Field; a decision of large buyers to curtail their purchases

and the inability of the small refiners to pay for all the crude that was offered them. As a result of the co-operative agreement, nearly 400,000 bbls. of independently produced Montana crude was marketed during the year.

Carbon County

The Carbon Oil & Gas .Co.'s No. 1 McMinn, NW SW SW, Section 7-7s-22, Dry Creek, one-third of a mile south of its No. 1 Armstrong, recently completed as a producer, has rig up. Charles E. Orchard has the drilling contract.

The Ohio Oil Co.'s No. 2 Montana Industrial, C NW NE, Section 11-7s-21, is drilling at 575 feet. The Ohio company is now shipping 400 bbls. of crude daily to the Utah Oil Refining Co. at Salt Lake City.

The Ohio Oil Co.'s No. 1 Kuchinski, NW SE NE, Section 15-7s-22, Golden Dome, has rigged up rotary at 335 feet and is waiting for power from the Montana Power Co.

Liberty County

The California Co.'s No. 1 Ross, NE SE NE, Section 3-33-6e, Utopia district, is drilling at 2,385 feet. The Western Natural Gas Co.'s No. 1 Hicks, C NW NE, Section 26-37-4e, Whitlash district, pumped 78 bbls. in 5½ hours at a total depth of 1,813 feet, and then made about 1 bbl. per hour. The Northland Oil & Gas Co.'s No. 1 Yurman, C SE SW, Section 32-33-5e, Liberty district, is drilling at 3,785 feet in the Devonian.

Glacier County

The Fulton Petroleum Co.'s No. 1 Blackfeet, SW NE NE, Section 28-36-12w, Milk River district, is drilling at 2,865 feet.

R. C. Tarrant's No. 1 Hogland, NW cor. SW, Section 13-34-6w, Cut Bank area, is shut down for the winter at 2,559 feet after setting the 8¼-inch. This well is reported to be running 40 feet higher than the B. & H. Oil .Co.'s No. 1 Haines, more than a mile away, which made 50 bbls. initially. Tarrant's plans call for the drilling of three wells the coming summer.

Cascade County

Charles Merz and others' No. 1 Sheffelt, SE NW, Section 4-21-4e, Black Horse Lake, is drilling at 850 feet.

Toole County

The Cosmos Petroleum, Inc.'s No. 3 Iowa Holding, NW NE SE, Section 2-37-4w, Border Field, swabbed altogether about 150 bbls. after plugging back to 2,547 feet from 2,552 feet.

The Oregon Oil Syndicate's No. 1 Barthelote, SW NE SE, Section 20-36-2e, Barthelote district, is bottomed at 2,268 feet and underreaming pipe at 1,920 feet to set at 2,200 feet.

Teton County

The California Co.'s No. 1 Sullivan, NW NE NW, Section 34-27-7w, Bynum district, is pulling the 8⅝-inch at 2,810 feet and after rerunning, will shut down until spring.

The Earl Oil Corp., Ltd.'s No. 1 Gad, SE cor. NE, Section 22-22-8w, Sun River district, is drilling at 3,850 feet in the Colorado shale after cementing cave.

UTAH

Powers, McMaster & Boyden are starting a test in their No. 1, SE SE, Section 35-3n-5e, on the Chalk Creek structure in Summitt County. The location is reported to be 800 feet down structure, close to and on the eastern side of a major fault. The reported location is approximately 2 miles northwest of a test drilled in 1924 by the Ohio Oil Co. on the NW cor. SE, Section 6-2n-6e, which was abandoned at 3,197 feet on account of a bad hole. This test had a show of 2 to 15 bbls. of oil at 2,260 feet, followed by water. Then at 2,930 feet it had a show of 25 to 30 bbls. of high gravity oil, followed by more water at 2,960 feet. At 3,150 feet it was 180 feet in a sand. The Western Empire Petroleum Co. drilled to 3,810 feet in Section 16-2n-5e, in 1927, and abandoned the hole.

The Utah Southern Oil Co.'s No. 1 Balsey, C NE NE, Section 31-23-21, Grand County, is bottomed in salt at 5,300 feet and fishing for tools.

Pipe Line Runs

Average daily pipe line runs for the week ended January 30:

	Bbls.
WYOMING	
Salt Creek	20,790
Badger Basin	50
Big Muddy	1,670
Byron Garland	1,020
Greybull	10
Dallas-Derby	630
Elk Basin	550
Ferris	20
Frannie	50
Grass Creek	2,060
Hamilton Dome	810
Hudson	460
LaBarge	950
Lance Creek	90
Lost Soldier	2,790
Midway	100
Osage	670
Pilot Butte	40
Rock River	1,670
Poison Spider	60
Teapot	20
Total Wyoming	34,510
MONTANA	
Buckley-Border	460
Cat Creek	920
Dry Creek	10
Kevin-Sunburst	3,350
Lake Basin	70
Pondera	1,580
Total Montana	6,390
COLORADO	
Florence	290
Fort Collins	890
Iles	730
Moffat	780
Orchard	510
Rangely	20
Tow Creek	260
Total Colorado	3,480
NEW MEXICO	
Rattlesnake	750
Hogback	190
Table Mesa	70
Artesia	400
Cap Rock	496
Hobbs	30,025
Jal	900
Lea City	1,985
Eunice	400
Texas Pacific	100
Total New Mexico	35,316
Total Rocky Mountain area	79,696
Total previous week	81,044
Difference	1,348

DATE SET IN TEXAS FOR CONSERVATION HEARINGS

(Continued from Page 14)

10 o'clock a. m., on February 11, 1932, at its hearing room in the capitol at Austin, Tex., reopen for further hearing the question of conservation and prevention of waste of crude petroleum and natural gas in Van Field in Van Zandt County, Texas, for the purpose of determining whether or not existing rules, regulations and orders adopted for the prevention of waste in said field shall be in any way amended as a result of petition of parties interested in the production of said field through Thomas G. Pollard, attorney, this date presented to the commission requesting an increase in the daily allowable production of oil from said field, also whether any further rules, regulations or orders shall be adopted for the enforcement of or pertaining to the common carrier and common purchaser laws."

SUNDAY SHUTDOWNS APPROVED BY TEXANS

FORT WORTH, Tex., Feb. 1.—Commending operators for shutting down their wells on Sunday or reducing runs by one-seventh for the week, the Texas division of the Mid-Continent Oil and Gas Association expressed itself in favor of the program designed so "that it may not be necessary to shut down and in many cases abandon wells whose production would be forever lost as well as throwing hundreds of oil field workers out of employment." The approval of the Sunday shutdown was in the form of a resolution, adopted by the Texas division and made public by J. P. Laney, secretary.

"Those who have made a careful study of the situation agree that adoption of this plan by the entire industry will be a great help in meeting many of the pressing problems of the day,' said Mr. Laney. "Continued heavy production will mean the abandonment of hundreds of small wells whose production will be forever lost, which, if conditions will permit their continued operation, will give employment to hundreds of oil field workers who would otherwise be thrown out of employment."

The resolution reads: "Whereas, numerous producers of crude oil in the promotion of conservation and providing employment for the greatest number of men, without the burden falling on any district or group, have voluntarily put into execution the Sunday closing of all wells, or where conditions necessitate continuous operation reducing runs by one-seventh, now, therefore, be it resolved by the Texas division of the Mid-Continent Oil and Gas Association that it commends this action as being fair to both the large and small operator alike. And be it further resolved, that the operators over the state be urged to so operate their properties that it may not be necessary to shut down and in many instances abandon wells whose production would be forever lost as well as throwing hundreds of oil field workers out of employment."

SECOND COMPRESSOR UNIT FOR REPRESSURING AT SARATOGA

By Nell Williams

HOUSTON, Tex., Feb. 1.—To provide for an extension of its repressuring operations at Saratoga, Rio Bravo Oil Co. is installing a second compressor unit which has been moved from the Electra Field, where repressuring work has been suspended. The unit consists of a 4x2⅛x4 horizontal, double-action, double-stage ER-2 Ingersoll-Rand compressor capable of handling 20,000 feet of gas daily.

The present unit, which has a capacity of 60,000 feet of gas daily, is a 6x2⅞x6 horizontal, double-stage compressor of the same make. The two units for the present will be operated separately with the gas handled by each being injected through different key wells but into the same sand.

The additional unit is being provided because development of the sand, a shallow horizon around 500 feet, has extended the productive area beyond the limits of the capacity of the first unit. Repressuring has been under way in this sand for the past year and very favorable results have been obtained for a group of these shallow wells within a radius of 750 feet of the present key well, No. 83-A. Since the starting of repressuring new wells have been drilled in this shallow sand as far as 2,000 feet to the northwest from the original operations and it now is desired to repressure these.

Tentatively No. 115-A, at the northwest end, has been selected as the key well for the injection of gas in the new area by the second compressor. However, the unit has not yet been placed in operation and it is not known whether that well will take the gas. The combined operations will repressure a few more than 40 wells, although development of the sand still is going on and additional wells are being completed.

One of the original handicaps to repressuring at Saratoga was the lack of gas, but since this work has been carried on, gas production as well as oil has increased to such an extent there now is an ample supply. The gas at first had to be taken under vacuum to the compressor but lately the pressure in the gas collection system has been built up to 9 pounds with the unit handling from 50,000 to 60,000 feet of gas daily. Gas is being injected into the sand by the present unit under a pressure of 65 pounds, this pressure having been reduced from around 145 pounds which first was required.

Repressuring operations at Saratoga were described in detail in an article which appeared in the August 28, 1930, issue of The Oil and Gas Journal. This has been the first real attempt to repressure in an old Gulf Coast salt dome field.

NEW DEVELOPMENTS IN USE OF GYRO PROCESS

(Continued from Page 18)

average octane number of the liquid phase cracked gasoline was 68 while that from the vapor phase was 84.

By careful regulation of the temperature and time of reaction, the production of fixed gas has been greatly reduced. Although its actual volume is still double that of liquid phase cracking, this extra gas is made at the expense of the fuel oil production rather than a reduction in the quantity of motor fuel made. After the removal of the motor fuel content by compression and absorption methods, the specific gravity of the gas is about 1.0, and its fuel value approximately 1,700 B.t.u. After polymerization, the volume is decreased by one-third, the gravity lowered and the B.t.u. value reduced to about 1,350.

Use of Gyro Gas

Gyro gas is being used largely in the field of chemical manufacture. Representative analyses of the gas are given below:

	Mid-Continent crude		Corning crude	Gulf Coast crude	
	abs. gas	stab. gas	dry gas	dry gas	stab. gas
CH_4+H	44.40	4.20	37.95	38.81	11.37
C_2H_4	30.35	1.60	25.52	20.31	15.56
C_2H_6	10.30	....	13.80	13.15	12.35
C_3H_6	12 00	27.10	15.84	13.15	44.37
C_3H_8	2.95	....	2.10	3.68	....
C_4X	....	66.45	2.76	6.43	13.86
C_5X+*	....	0.64	1.03	2.47	1.99
Sp. Gr.	0.856	1.500	0.993	0.977	1.35

*Heavier.

The following distillations are representative of vapor phase cracked gasoline before and after treatment:

	Raw distillate	Finished gasoline	Polymers
Per cent	100	92.8	6.11
Gravity	55.3	55.1	18.7
Initial	90	100	392
10%	148	158	508
20%	182	192	556
30%	212	222	588
40%	248	254	612
50%	284	288	632
60%	308	314	654
70%	348	340	679
80%	374	362	716
90%	400	386	760
Endpoint	424	410	...
Color	...	30	...
Gum	...	0.2 mg.	...

The outstanding features of the Gyro process are:

1. High antiknock value of motor fuel produced.
2. Freedom from carbon formation and long runs.
3. Safety and ease of operation, due to low pressure.
4. Ability to handle any grade of charging stock.
5. Value of fixed gas in chemical manufacture.
6. Low operating and labor costs.
7. Yield of motor fuel equal to other cracking processes.
8. Self-contained nature of equipment required.
9. Absence of corrosive action of sulphur, characteristic of other processes.
10. Adaptability to reforming heavy straightrun naphtha.
11. Flexibility of the process.
12. Simplicity and economy in construction.

BOUGHT BY MAGNOLIA

FORT WORTH, Tex., Feb. 1.—The Magnolia Petroleum Co. purchased the Owenwood Oil Corp.'s office building, tanks, and other property in Fort Worth for $57,500, and will move its Fort Worth sales offices to the Owenwood Building at 540 North Main Street. The deal was made through J. W. Robins, receiver for the Owenwood Oil Corp.

GULF

Modern Methods Make Modern Gulf Products

the largest Atmospheric-Vacuum Still ever built.

Paraffine and Coastal Crudes

Gasoline · Lubricating Oils

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GULF REFINING COMPANY

General Sales Offices: PITTSBURGH, PA.

Brief Items for Petroleum Refiners

Survey Emphasizes Overexpansion of Market Facilities

The waste accompanying the overexpansion of filling stations in the United States is stated as being $455,000,000 annually, according to Glen B. Winship, who has completed a two years' survey of the oil marketing practices. The results of this survey have been summarized by the New York times.

Mr. Winship estimates that the investment in unnecessary service stations and in unnecessary bulk distributing plants exceeds $1,000,000,000 and that the loss in net operating revenues directly attributable to this needless investment is almost 4 per cent annually on the investment in all branches of the industry.

Records assembled by Mr. Winship indicate that there are 216,671 retail gasoline outlets in this country, exclusive of isolated single-pump outlets doing a negligible amount of business. He classifies 156,671 of these outlets as service stations, and asserts that 111,594 of them, or 71 per cent, are unnecessary. Pennsylvania and Rhode Island show the smallest percentage of overdevelopment and Arkansas the largest.

"There is a total of 6,351 towns and cities in which service stations are warranted," Mr. Winship said, "the figures by states varying from 477 for Pennsylvania to 13 for Nevada. Of these 6,351 towns, I am prepared to prove that 5,519 are overbuilt, so far as service stations are concerned."

Table Shows Survey

Arranged by population of communities his findings are as follows:

Population—	Service stations operating	Stations unnecessary	Pct. unnecessary
1,000,000 or more....	10,437	4,547	44
500,000 to 999,999...	5,164	2,402	47
250,000 to 499,999...	9,720	5,153	53
100,000 to 249,999...	10,736	6,343	59
50,000 to 99,999.....	8,338	4,646	56
Smaller towns	68,800	45,027	65
Places where no station is warranted.	43,476	43,476	100
Total	156,671	111,594	71

"Prior to the period of excessive expansion in the distributing branch of the industry," Mr. Winship said, "the average allowance to dealers was 2 cents a gallon. The average today is not less than 4 cents a gallon, and in many stations it is considerably more. This does not refer to the spread between the tank wagon and service station prices, but the total spread between the net price actually paid by the dealer and the retail price exclusive of tax.

"Operating expenses of 'company-owned' service stations have shown a corresponding increase during this period. Furthermore, the average unit cost of bulk plant operation and tank wagon deliveries has increased at least one-half cent a gallon. The industry will doubtless admit that the chief reason for this increase in operating costs is the direct and indirect effects of overbuilding, which has steadily reduced the average gallonage of stations.

"This increase of 2½ cents a gallon in cost of distributing and marketing, applied to the 1930 total 'motor gasoline consumption' of the United States as estimated by the American Petroleum Institute, shows a reduction of $394,000,000 in net operating revenues. Although part of this gasoline does not move through service stations, the loss to the industry is the same because gasoline shipped directly to consumers is sold on a price scale which embodies the spread.

"This is only part of the direct cost of overdevelopment. Depreciation of unnec-

(Continued on Page 78)

NEW VENEZUELA PLANT TO FURNISH FUEL OIL

NEW YORK, Feb. 1.—Standard Oil Co. of New Jersey has booked a contract calling for the annual delivery of approximately 750,000 bbls. of fuel oil, for a period of three years, to nitrate producers in Chile. Initial deliveries on the contract, it is understood, will be made from the company's refinery terminal at Baton Rouge, La., but it is planned to supply the bulk of the Chilean shipments from the new topping plant of Creole Petroleum Co., at Carapito, Venezuela.

The new Carapito plant, now under construction, is expected to be in operation late in March, and will supply fuel oil for the Chile contract and for other South American needs of the Jersey group. The location of Creole's new refinery, in conjunction with the Chile contract, ties in admirably with other phases of Jersey's operations, it is pointed out. Tankers of Imperial Oil Co., another Jersey subsidiary, load crude in Peru and deliver it to Montreal, via the Panama Canal. On the return trip, which must now be made empty or in ballast, these tankers will be able to stop off at Carapito, load fuel oil for delivery at Chile, and complete the second leg of their return journey with a "pay load."

SHELL ACQUIRES SUN OIL COMPANY STATIONS

CHICAGO, Feb. 1.—Shell Petroleum Corp. has acquired all of the Sun Oil Co.'s retail stations in Chicago and vicinity, the property acquired including about 30 service stations owned and operated by the Sun company and 45 dealer outlets and bulk plants.

The Sunoco acquisition follows the recent purchase by Shell of the Western Oil & Refining Co.'s properties in Indiana, materially extending its marketing outlets in that territory. The deal with Sun, it is reported, involved the exchange of duplicate Shell and Western Oil stations in various parts of Indiana for Sun's Chicago outlets.

REFINERY TO RESUME

CHATHAM, Ontario, Jan. 30.—Maple Leaf Petroleum, Ltd., will shortly resume the operation of the refinery at Coutts, Alberta, purchased some months ago from Maple Leaf Oil & Refining Co. The new company is backed by Denver interests, and the officials include P. R. Naylor and B. E. Ireson of Denver and Thomas L. Alford of Great Falls. The plant will run 1,000 bbls. of crude per day, but it is planned to gradually increase the capacity to 4,000 bbls. The new owners are considering installation of a cracking plant, but no decision on this is expected for some weeks. Mr. Naylor was formerly with the Continental Oil Co.

RUMANIAN EXPORTS HIGHER

NEW YORK, Feb. 1.—Preliminary reports indicate that 1931 exports of petroleum and products from Rumania amounted to 4,850,000 tons, compared with 3,786,150 tons in the previous year. Throughput of Rumanian refineries last year approximated 6,700,000 tons, against 5,650,000 tons in 1930.

PAULUS NEW DIRECTOR

Dr. Max G. Paulus, general manager of manufacture for the Standard Oil Co. of Indiana, has been elected to the board of directors of the company to fill the vacancy left by the death of Gentry Cash.

LOUISIANA CORPORATION CLOSES LARGE CONTRACT

SHREVEPORT, La., Feb. 2.—Following a confirmation by Cities Service officials in New York, D. W. Harris, general manager of Cities Service activities in the Mid-South, has announced the signing of a contract by the Louisiana Oil Refining Corp. of this city with the Orange State Oil Co. of Miami, Fla., for distribution of Cities Service and Koolmotor oils and gasoline through 104 tank and service stations located along Florida's coast from Palm Beach to Key West.

Estimated sales of 10,000,000 gallons last year show this to be a large addition to Cities Service retail marketing facilities for this year and one of the largest in the last 12 months. According to plans as outlined by Mr. Harris, refined oil products will be transported from the Loreco refinery at Bossier City to the harbor at Port Neches, Tex. From this point, they will be shipped by barge direct to marine terminals of the Orange State company at Miami. The gasoline will be transported from Shreveport to the Gulf Coast through an 8-inch pipe line, recently leased from the Texas Pipe Line Co. by the Louisiana Oil Refining Corp. The line, which has been used heretofore by The Texas Company to transport crude oil from its Ardis tank farm at Shreveport to the coast, will continue to be maintained by the latter company. The line is now transporting several thousand barrels of gasoline daily. The gasoline is moved by tankers from the terminals to the East Coast terminals of the Richfield Oil Co. of New York.

Negotiations were handled through the Louisiana Oil Refining Corp as the southern unit of the Cities Service oil group, and this entrance marks the first time that Cities Service products have been available to motorists in the South Atlantic States.

NEW GERMAN PLANT TO OPERATE THIS MONTH

The new refinery of Elwerath Gewerkschaft, located near Hanover, Germany, will start operating this month. Work on the refinery started in May of last year and the February completion is two months ahead of the expected date.

The plant is Germany's first large refinery since the recent development of extensive oil resources in that country. The plant is located on state-owned lands on the Canal bank at Misburg. The plant will have sufficient capacity to refine 2,600 bbls. of crude oil daily. Other plant equipment includes a Dubbs cracking unit and rerun still.

The refinery was designed and built by Arthur G. McKee & Co., Cleveland. The McKee engineers will remain for some months in Germany to supervise initial operations.

START PLANT CONSTRUCTION

CHATHAM, Ontario, Jan. 30.—Plans are being pushed for construction of the new refinery of the Simrall Oil Refining Co. at Amherstburg, Ontario. Railroad and dock facilities are being provided and the plant will be built in two units of 2,500 bbls. capacity each. The plant is expected to start operations about April 1.

JOHNSON WITH FRANKLIN OIL

Carl L. Johnson, formerly secretary of the petroleum section of the American Chemical Society and well known in the Mid-Continent refining industry, is now chief chemist for the Franklin Oil & Gas Co. of Bedford, Ohio.

APPOINT COMMITTEE TO PROVIDE A.P.I. PROGRAM

Arthur E. Pew, Sun Oil Co., Philadelphia, Pa., has been appointed chairman of the program committee of the American Petroleum Institute's Division of Refining. R. P. Anderson, of the Institute staff, is secretary.

The members are: H. W. Camp, Empire Oil & Refining Co., Tulsa; T. G. Delbridge, Atlantic Refining Co., Philadelphia, Pa.; R. T. Haslam, Standard Oil Development Co., New York; R. E. Haylett, Union Oil Co. of California, Los Angeles, Calif.; E. W. Isom, Sinclair Refining Co., New York, and K. G. Mackenzie, The Texas Company, New York; Walter Miller, Continental Oil Co., Ponca City, Okla.; L. W. Parsons, Tide Water Oil Co., Bayonne, N. J.; J. B. Rather, Standard Oil Co. of New York, Brooklyn, N. Y.; A. S. Russell, Standard Oil Co. of California, San Francisco, Calif.; F. W. L. Tydeman, Shell Petroleum Corp., and R. E. Wilson, Standard Oil Co. (Indiana), Chicago.

Standardization Committee

Henry Thomas, Sun Oil Co., Philadelphia, Pa., has been reappointed chairman of the Committee on Standardization of Refinery Equipment of the American Petroleum Institute's Division of Refining. The secretary is R. P. Anderson, of the Institute staff.

Following are the members: D. G. Brandt, Henry L. Doherty & Co., New York; Edward Ellsberg, Tide Water Oil Co., New York; E. W. Gard, Union Oil Co. of California, Los Angeles, Calif.; J. G. Glasgow, Gulf Refining Co., Pittsburgh, Pa.; C. H. Haupt, Standard Oil Development Co., Elizabeth, N. J., and John S. Hess, Sinclair Refining Co., New York; K. V. King, Standard Oil Co. of California, San Francisco, Calif.; W. D. Kinsell, Pure Oil Co., Chicago; C. J. Nobmann, Shell Oil Co., 100 Bush Street, San Francisco; R. C. Powell, The Texas Company, New York; Walter Samans, Atlantic Refining Co., Philadelphia; and George W. Watts, Standard Oil Co. (Indiana), Whiting, Ind.

TO BUILD SMALL PLANT

HOUSTON, Tex., Feb. 1.—Strake Oil Corp. has just completed the laying of 4 miles of 2-inch line from its wildcat well in the Theodore Slade Survey, central Montgomery County, to a site south of Conroe on the Houston-Conroe Highway where it is proposed to set up a small skimming plant. The latter plant, according to plans, is to be erected by the Conroe Refining Co., a company now being organized by the Strake interests.

It will have a capacity of 300 bbls. daily and the gasoline output will be sold locally and for the present will be handled by tank wagons. So far, the Strake well, No. 1 South Texas Development Co., is the only production in the area. It was completed last December as a wet gas well. Production is estimated at 15,000,000 feet of gas and around 80 bbls. of high gravity oil daily. Because of lack of outlet either for gas or oil, the well has been produced only at short intervals.

INSTALL TREATING PLANT

The Continental Oil Co. has completed plans for the installation of a treating plant at its Baltimore, Md., refinery. The plant, which will have a capacity of 4,000 bbls. daily, will be the Stratford type, which is a new system for producing gasoline of stable color, reduced gum content and high antiknock characteristics. The plant will be installed by Alco Products, Inc., a division of American Locomotive Co.

Manufacture of Natural Gasoline

Discuss Problem Of Transporting Liquefied Gases

NEW YORK, Jan. 30.—John A. Kienle, vice president of the Mathieson Alkali Works, Inc., New York, was elected president of the Compressed Gas Manufacturers' Association at its annual convention at the Hotel New Yorker here this week. F. A. Eustin, of the Virginia Smelting Co., Boston, was elected first vice president, F. J. King, of the Linde Air Products Co., New York, second vice president, and Franklin R. Fetherston was re-elected secretary-treasurer of the organization.

Discussion of economic distribution of liquefied chlorine, transportation of gases in tank cars, new applications for liquefied petroleum gases, the relation of the Chemical Warfare Service to the compressed gas industry, and developments during the past year in the solid carbon industry featured the first day's session.

Speakers at the meeting were as follows: H. Emerson Thomas, Philgas Co., who spoke on the industrial applications of liquefied petroleum gases; L. A. Belding, General American Tank Car Corp., whose topic was "Tank Cars Show the Way to New Industrial Economies"; W. L. Savell, the Mathieson Alkali Works, Inc., who addressed the meeting on the economic distribution of liquid chlorine; Dr. C. L. Jones, Dry Ice Corp. of America, who talked on developments in solid carbon dioxide during the past year; Capt. Maurice E. Barker, Chemical Warfare Service, "Toxic Gases"; C. E. MacQuigg of the Union Carbide & Carbon Research Laboratories and J. J. Crowe of the Air Reduction Co., Inc., who presented a joint paper on "Development of Containers for Transportation of Gases Under Pressure," and F. Eder, of the Robert W. Hunt Co., engineers, who talked on "Containers—Their Forms, Formula, and Deformation."

The executive board of the association is made up of the following: Eugen Becher, Metal & Thermit Corp., New York; W. A. Brown, Liquid Carbonic Corp., Chicago; F. A. Bureau, L'Air Liquide Society, Montreal; J. R. Colby, Canadian Carbonate, Ltd., Montreal; Walter Dannenbaum, Du Pont Ammonia Corp., Philadelphia; J. A. Dixon, Pintsch Compressing Co., New York; F. A. Eustis, Virginia Smelting Co., Boston; R. A. Hobson, Pure Carbonic, Inc., New York; H. M. Hooker Electrochemical Co., New York; S. Willard Jacobs, Electro Bleaching Gas Co., New York; F. A. Johnston, S. S. White Dental Manufacturing Co., Princes Bay, N. Y.; J. A. Kienle, the Mathieson Alkali Works, Inc., New York; F. J. King, the Linde Air Products Co., New York; Otto S. King, the Ohio Chemical & Manufacturing Co., New York; Frank Y. Locke, Northwestern Blaugas Co., St. Paul; E. G. Luening, the Helium Co., Inc., Louisville; John C. Minor, New York; A. Cressy Morrison, International Acetylene Association, New York; H. E. Thomas, Philfuels Co., Detroit; H. B. Pearson, Compressed Industrial Gases, Inc., Chicago; W. W. Robertson, Armour Ammonia Works, Chicago; Edmund Rowland, Hy. Bower Chemical Manufacturing Co., Philadelphia; H. S. Smith, the Prest-O-Lite Co., Inc., New York; M. M. Smith, Commercial Acetylene Supply Co., Inc., New York; J. Carlisle Swaim, Roessler & Hasslacher Chemical Co., New York; Herbert Thompson, Carbide & Carbon Chemicals Corp., New York; Clifton C. Trees, Carbo-Oxygen Co., Pittsburgh; E. C. Turner, Air Reduction Co., New York, and H. Van Fleet, Air Reduction Co., New York.

SPECIAL TANK CARS OFFER MEANS OF EXPANDING LIQUID GAS SALES

By L. A. Belding
General American Tank Car Corp.*

Despite the present depressed state of the world, the liquefied hydrocarbon gas industry has achieved during the past few months a record of development that compares favorably with that of electric-refrigeration or radios in more prosperous times. All the convenience of the city dweller is carried almost to the very kitchen of the home in the small town, farm, or outlying district, by means of tank cars. Bankrupt manufacturing gas plants in hundreds of towns have an opportunity of becoming solvent. Distribution of manufactured gas in small communities, commanding high fixed charges and high operating costs cannot show profits on the small gas consumption of these smaller towns, but propane or butane can be applied to these small towns with very small initial investment, and unbelievably small operating costs, and delivered to the community as a clean, uniform, nonpoisonous gas admirably adapted to domestic heating problems. These liquefied petroleum gases, heavier than permanent gases but lighter than the liquid fractions which are too volatile to be blended in large proportions with motor fuels, can be economically shipped to industries and for local distribution to homes in special tank cars as a liquid; but not until the car builder created special cars could these propanes and butanes be economically transported and distributed in volume, so that it can truly be said that the car builder has greatly helped to make the liquefied petroleum gas industry possible.

The quantities of these gases marketed speak well of the tank car's contribution, when it is realized that the first of these high-pressure cars for the transportation of propane, was built in 1925.

LIQUEFIED PETROLEUM GASES MARKETED

Year—	Gallons
1926	465,068
1927	1,091,005
1928	4,522,899
1929	9,925,698
1930	18,017,347
1931	26,300,000

Little was it realized when that first special high-pressure car for transporting propane was built in 1925, that it would point the way to economies that would permit the development of a market of some 1,300,000 customers, which later "should be regarded as sound prospects for propane and butane developments independent of city gas systems." In fact the entire population of the United States now served by electricity, but not enjoying the benefits of gas, can become, through the efficiency of these liquefied hydrocarbons, potential buyers of gas; thus broadening the market for gas enormously. Thus, this special car created primarily to transport propanes to chemical processes, has shown such economies as to make it possible to establish an entirely new industry, and points further to wider boundaries and new markets.

Helium and Ethane

Helium for use in our lighter-than-air airships, has made necessary an entirely new type of car. The car builder with the helpful co-operation of the United States Navy has created a type of car that makes the transportation of helium economical, and this car effects such savings in the transportation of helium, over transporting the same amount of helium in small cylinders, as to pay for itself in 15 trips. The earlier method of shipping in small cylinders permitted loading about 600 of these cylinders in a box car, and carrying a total of about 100,000 cubic feet of helium. This new car carries 225,000 cubic feet of helium at normal temperature and pressure. The 28 tanks on the car are seamless-drawn of substantially the same physical and chemical characteristics as the smaller oxygen cylinders. Even with the capacity of this new car there will be required approximately 30 carloads to fill the U. S. S. "Akron." With a car of this type operating at 2,250 pounds per square inch, tested at 3,750 pounds per square inch, similar economies could be effected in the transportation of other gases such as oxygen and hydrogen.

The new high-pressure car developed for the transportation of helium, and effecting very marked economies, points the way to the day when our dirigibles will be using gaseous motor fuels instead of liquid fuels. This car is available for the transportation of ethane and ethane derivatives, which might constitute such fuels.

Caustic soda can be more economically shipped in liquid form than in solid form, but when shipped as a water solution in carbon steel tank cars it becomes contaminated with iron, and such iron contamination causes very serious troubles to the rayon industry. The Viscose process for making rayon, by which 80 per cent of the world's rayon is produced, consists of dissolving cellulose in caustic soda, and the caustic soda used has to be of a very low iron content, otherwise the process will not operate successfully. It has been the general practice of companies making Viscose rayon, to buy caustic soda in solid form so as to insure the low iron content, but this is expensive because the production of solid, or fused, caustic soda by the alkali manufacturers, costs more than the production of liquid caustic soda, and the rayon manufacturer has to take the solid caustic soda and put it into solution before he uses it; so the difference in cost of solid caustic soda over liquid caustic soda is approximately $8 per ton of sodium hydroxide. When it is considered that one rayon manufacturer alone consumes approximately 50,000 tons of caustic soda a year, this amounts to a premium of some $400,000, which the new nickel-lined tank car is destined to save yearly to this one consumer because the car will deliver liquid caustic soda without iron contamination.

The car is completely lined with nickel on the interior. The production of these nickel-clad steel plates to be used in the manufacture of this tank car is a tribute to modern metallurgy and to the engineering ability of the International Nickel Co. and the very splendid co-operation of the Lukens Steel Co. A billet of nickel, properly prepared, is placed upon a billet of prepared steel and heated to proper rolling temperature and then this nickel which cannot fuse at the same temperature of steel and which has different mechanical properties, is rolled out and successfully bonded to the steel. These nickel-clad steel plates are formed to make the tank and are riveted with pure nickel rivets.

*Address delivered before Compressed Gas Manufacturers Association annual convention, New York, January 25.

ONLY SLIGHT CHANGES IN SKELLY OPERATIONS

Only minor changes have been made in the operation of the Skelly Oil Co. plants within the past nine months, during which time the industry has seen fit to shut down plants located in depleted fields and in areas where the reduced prices on the finished product were too low to pay for their cost of manufacture.

The company in the meantime has shut down three plants, two of which are located in Oklahoma and one in the Panhandle of Texas.

The complete list of plants and the present status of their operation is carried in tabular form below:

Plant location—	Daily plant capacity, gallons	Status
J. W. Proctor Sur., Moore County, Texas	7,000	Operating
Sec. 15-14n-8e, Creek County, Oklahoma	5,000	Shut down
G. W. Darby Sur., Wagoner County Texas	7,000	Operating
Sec. 2-14n-5e, Lincoln County, Oklahoma	5,000	Shut down
Sec. 6-9n-6e, Seminole County, Oklahoma	35,000	Operating
Sec. 1-9n-5e, Seminole County, Oklahoma	10,000	Shut down
Sec. 17-9n-6e, Seminole County, Oklahoma	35,000	Operating
Sec. 174, Blk. 3, Gray County, Texas	15,000	Operating
Sec. 11-27n-5e, Osage County, Oklahoma	15,000	Operating
Sec. 15-20n-6e, Pawnee County, Oklahoma	5,000	Operating
Sec. 5, Blk. "Y," Hutchinson County, Texas	4,000	Shut down
Sec. 11, Blk. "Y," Hutchinson County, Texas	12,000	Operating
Sec. 20, Blk. "Y," Hutchinson County, Texas	15,000	Operating
Sec. 4, Blk. B-4, D.&S.E. Ry. Co. Sur., Hutchinson County, Texas	30,000	Operating
Sec. 6, Blk. "Y," Hutchinson County, Texas	15,000	Shut down
H.T.&B.R.R. Sur., A-124, Wichita County, Texas.	5,000	Operating
Sec. 88, Blk. 4, I.&G.N. R.R. Sur., Carson County, Texas	35,000	Operating
Sec. 86, Blk. 4, I.&G.N. R.R. Sur., Carson County, Texas	18,000	Operating
Sec. 15-15n-10e, Creek County, Oklahoma	10,000	Operating
Sec. 4-15n-9e, Creek County, Oklahoma	5,000	Shut down
Sec. 24-24n-9e, Osage County, Oklahoma	10,000	Operating

GASOLINE ASSOCIATION MEETING MAY 17 TO 19

The Natural Gasoline Association has announced the date of its next annual meeting for May 17, 18 and 19. The meeting will be held in the Mayo Hotel in Tulsa as in past years. The program committee has already formulated a tentative program, the final program to be announced in the near future.

The program committee, with A. T. Scherer of the Sinclair Oil & Gas Co. as chairman, is composed of R. E. Baker of the Shell Petroleum Corp., Walter Moran of Crosbie & Moran, Inc., E. L. Stauffacher of the Empire Oil & Refining Co., O. C. Field of the O. C. Field Gasoline Corp. and G. M. Campbell of the United Gas Public Service Corp.

The Natural Gasoline Supply Men's Association will again prepare the entertainment for those attending the convention and plans are going forward under the entertainment committee with A. W. Burkett of the Jackson Engineering Co. as chairman.

EXPECT FURTHER DROP OKLAHOMA CITY YIELD

Natural gasoline manufacturers operating plants in the Oklahoma City Field expect an overall decrease in their production of from 10 to 15 per cent for the month of February as the result of curtailing crude production to a maximum of 95,000 bbls. daily, effective February 1.

BIG LAKE OIL COMPANY

Producers of

Reagan County High Grade

CRUDE OIL

and

NATURAL GASOLINE

Executive Offices
PITTSBURGH, PENNA.

Field Offices
TEXON, TEXAS

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

GASOLINES

	Feb. 2		Jan. 26	
OKLAHOMA (Group 3)—				
*U. S. Motor	.03	.03¼	.03	.03¼
60-62 400	.03¼	.03⅜	.03¼	.03⅜
64-66 390	.03½	.03¾	.03½	.03¾
64-66 375	.03¾	.04	.03¾	.04
68-70 350	.04		.04	.04¼
NORTH TEXAS—				
*U. S. Motor	.03	.03¼	.03	.03¼
60-62 400	.03¼	.03⅜	.03¼	.03⅜
64-66 390	.03½	.03⅝	.03½	.03⅝
64-66 375	.03¾	.04	.03¾	.04
64-66 360	.04	.04⅛	.04	.04⅛
‡NORTH LOUISIANA—				
*U. S. Motor	.03½	.03¾	.03½	.03¾
60-62 400	.03¾		.03¾	
‡ARKANSAS—				
*U. S. Motor	.03¼	.03½	.03½	.03⅝
CHICAGO Based on Okla. (Group 3)—				
*U. S. Motor	.02⅞	.03⅛	.03	.03¼
60-62 400	.03¼	.03⅜	.03¼	.03⅜
64-66 375	.03⅞	.04⅛	.03⅞	.04
Aviation fighting grade	.04¾	.05¼	.04¾	.05¼
68-70 360	.04⅛	.04⅜	.04	.04¼

Octane Ratings—Above quotations cover price ranges on gasolines in which no octane rating is given. In the case of the U. S. Motor and 60-62 400 endpoint grades where an octane rating of 57-65, inclusive, is guaranteed, prices are three-eighths cent per gallon higher than quotations shown in above tables; where an octane rating of 65 or higher is guaranteed, the prices are five-eighths cent higher. In the case of the remaining grades, gasolines of 65 octane rating or higher are quoted one-fourth cent higher than the quotations shown in above tables. Unless otherwise provided by agreement of buyers and sellers, the Series 30 testing equipment of the Ethyl Gasoline Corp. is recognized as standard in determining octane ratings.

*Present distillation specifications on U. S. Motor gasoline are: 10 per cent evaporated, 167° F. maximum; 50 per cent, 284° F. maximum; 90 per cent, 392° F. maximum; residue not exceeding 2 per cent; maximum vapor pressure, 12 pounds. Additional specification on U. S. Motor gasoline available from bulletins of Bureau of Mines, Washington, D. C.

‡For Arkansas, Louisiana and Mississippi delivery.

PENNSYLVANIA (inland refineries)—				
U. S. Motor	.04	.04¼	.04¼	.04½
60-62 400	.04¾		.04¾	
64-66 375	.04¾	.05	.04¾	.05
68-70 350	.05½		.05½	

Octane Ratings—In the case of U. S. Motor and 60-62 400 endpoint grades, same price differentials based on octane ratings as shown in above tables for Oklahoma and other Mid-Continent areas.

CALIFORNIA (domestic movement only)—				
54-58 U. S. Motor	.05	.06	.05½	.06
58-60 400	.06	.06¾	.06	.06¾
NEW YORK (Bayonne, N. J.)—				
U. S. Motor, below 65 octane number	.05¾		.05¾	
U. S. Motor, min. 65 octane	.06½		.06½	

NAPHTHAS

	Feb. 2		Jan. 26	
OKLAHOMA (Group 3)—				
50-52 450 (blending)	.02¾		.02¾	
PENNSYLVANIA—				
50-54 430-450 (blending)	.04		.04¼	
ARKANSAS—				
48-50 450 (blending)	.03		.03	.03¼
CHICAGO Based on Okla. (Group 3)—				
50-52 450 (blending)	.02¾	.02⅞	.02⅝	.02⅞
Cleaners' naphtha, 56-58 gr. 200 i.b.p.-320 e.p.	.05⅝	.05⅞	.05⅝	.05⅞
Lacquer diluent, 180 i.b.p.-250 e.p.	.09	.09¼	.08⅝	.08⅞
Lacquer diluent, 140 i.b.p.-200 e.p.	.09	.09¼	.08⅞	.09⅛
Rubber solvent, 68-70 gr., 100 i.b.p.-300 e.p.	.05¾	.06¼	.05⅝	.06⅛
Stoddard solvent, 300 i.b.p.-410 e.p., over 100° flash	.04⅞	.05⅛	.04⅞	.05⅛
Pet thinner, 290, 300 i.b.p.-415 e.p., over 83° flash	.04⅜	.04⅝	.04⅜	.04⅝
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p.-330 e.p.	.05¼	.05½	.05¼	.05½
Petroleum spirits	.03⅞	.04¼	.04	.04½

NATURAL GASOLINES

OKLAHOMA (Group 3)—	Feb. 2		Jan. 26	
Grade 26-70	.02		.02¼	
NORTH TEXAS—				
Grade 26-70	.01⅞		.02⅛	.02¼
NORTH LOUISIANA—				
Grade 26-70	.02⅛		.02⅜	
CALIFORNIA—				
75-78 375	.04½	.05¼	.05¼	.06¼

Note—Grade 26-70 is one of the 24 grades adopted by the Natural Gasoline Association of America which became finally effective January 1, 1932. For this grade the vapor pressure is 22-26 pounds (Reid method) and 70 to 85 per cent evaporated at 140° F. See page 74 of January 7 issue for explanation of new grading system.

KEROSENES

(All kerosenes water white.)

	Feb. 2		Jan. 26	
OKLAHOMA (Group 3)—				
41-43	.02⅝	.02¾	.02⅝	.02¾
42-44	.02¾	.02⅞	.02¾	.02⅞
NORTH TEXAS—				
40-41	.02⅝		.02½	
41-43	.02¾		.02⅝	
‡NORTH LOUISIANA—				
41-43	.03	.03¼	.03	.03¼
42-44	.03¼	.03⅜	.03¼	.03⅜
‡ARKANSAS—				
41-43	.03	.03¼	.03	.03¼
PENNSYLVANIA—				
45	.04⅜	.04½	.04⅜	.04½
46	.04½	.04⅝	.04½	.04⅝
47	.04⅝	.04¾	.04⅝	.04¾
CHICAGO (Based on Group 3)—				
41-43	.02⅝	.02¾	.02⅝	.02¾
42-44	.02¾	.03	.02¾	.03
***CALIFORNIA—**				
38-40 high burning test	.04	.05	.04	.05
NEW YORK (Bayonne, N. J.)—				
41-43	.05½		.06	

For Pacific Coast consumption.

‡For Arkansas, Louisiana and Mississippi delivery.

TRACTOR FUELS*

	Feb. 2		Jan. 26	
OKLAHOMA (Group 3)—				
39-41 prime white	.02¼	.02⅜	.02¼	.02⅜
38-40 light straw	.02	.02⅛	.02	.02⅛
NORTH TEXAS—				
38-40 light straw	.02⅛	.02¼	.02⅛	.02¼
CHICAGO—				
38-40 light straw	.02⅛	.02¼	.02⅛	.02¼
PENNSYLVANIA—				
41-43 prime white	.04¼		.04¼	

*There are no standard specifications for tractor fuels. Grades commonly sold have flash under 175° F. (open cup) and under 575° F. endpoint and less than .2 per cent sulphur. Tractor fuels are available from all Mid-Continent refining groups at prices in line with the Oklahoma market taking into consideration differentials in freight rates.

FURNACE OILS*

	Feb. 2		Jan. 26	
OKLAHOMA (Group 3)—				
32-36 straw	.01¾	.02	.01¾	.02
36-38 straw	.01⅞	.02⅛	.01⅞	.02⅛
38-40 straw	.02	.02⅛	.02	.02⅛
39-41 prime white	.02⅛	.02¼	.02⅛	.02¼
NORTH TEXAS—				
38-40 straw	.02⅛	.02¼	.02	.02⅛
‡NORTH LOUISIANA—				
36-40	.02½	.02⅝	.02½	
‡ARKANSAS—				
32-36	.02⅛	.02¼	.02⅜	.02½
CHICAGO—				
32-36 straw	.01⅞	.02⅛	.01⅞	.02⅛
38-40 straw	.02⅛	.02¼	.02⅛	.02¼
PENNSYLVANIA—				
40-41 prime white	.03½		.03½	
NEW YORK (Bayonne, N. J.)—				
32-36	.03¼		.03½	
36-40	.03¾		.03¾	

*Above prices are for furnace oils of zero cold test, under 190° F. flash and good odor.

‡For Arkansas, Louisiana and Mississippi delivery.

GAS OIL, DIESEL OIL AND FUEL OIL

Gas oil (G.O.) quoted per gallon basis; Diesel oil and fuel oil per barrel.

	Feb. 2		Jan. 26	
OKLAHOMA (Group 3)—				
32-36 (G.O.) cracking stock	.01⅛	.01¼	.01¼	
U.G.I. (G.O.)	.01⅛	.01¼	.01¼	.01⅜
32-36, zero to 15	.01⅜	.01½	.01⅜	.01½
28-30, zero to 10	.45	.50	.45	.50
26-30, zero to 10	.40	.50	.40	.50
24-26	.35	.40	.35	.40
20-22	.25	.30	.27½	.35
16-20	.22½	.25	.25	.30
Below 16	.20	.25	.22½	.27½
NORTH TEXAS—				
32-36 (G.O.) industrial	.01⅛		.01¼	
22-26	.40	.45	.40	.45
Below 20	.30	.35	.35	.40
‡NORTH LOUISIANA—				
30-32 (G.O.) zero	.02	.02¼	.02	.02¼
18-22	.30	.40	.35	.50
‡ARKANSAS—				
28-32 (G.O.) zero	.56	.60	.55	.60
16-20	.40	.45	.40	.50
CHICAGO—				
32-36 (G.O.) industrial	.01⅜	.01½	.01⅜	.01½
28-30 (zero)	.50	.60	.50	.60
22-26	.32½	.37½	.32½	.37½
18-22	.25	.30	.25	.30
Below 18	.20	.25	.20	.25

Note—Fuel oils of more than 40 cold test generally 5 to 10 cents per barrel less in all areas than shown in above tables.

‡For Louisiana, Arkansas and Mississippi delivery.

CALIFORNIA—				
30-34 (G.O.) per bbl.	.85	1.00	.85	1.00
27 plus Diesel	.80	.95	.80	.95
15-19 bunker (at tidewater)	.60	.80	.60	.80
15-19 bunker (cargo lots)	.55	.75	.55	.75
15-19 (tank cars)	.40	.75	.40	.55
GULF COAST—				
28-30 (G.O.)	.02¾	.03	.02¾	.03
Bunker C (cargo lots)	.40	.50	.40	.50
NEW YORK (Bayonne, N. J.)—				
28 plus (G.O.)	.03½	.04	.03½	.04
*28-30 Diesel	1.30		1.30	
†Bunker C	.60		.60	

*Lighterage 6½ cents per barrel.

†Lighterage 5 cents per barrel.

NEUTRAL OILS

(Viscosity at 100° F., and Color)

OKLAHOMA (Group 3)—	Feb. 2		Jan. 26	
Zero to 10 Cold Test:				
150-3	.06¼	.06½	.06¼	.06½
180-3	.07½	.07¾	.07½	.07¾
180-4	.07	.07¼	.07	.07¼
200-3	.08½		.08½	
200-4	.08	.08¼	.08	.08¼
240-3	.09¾	.10	.09¾	.10
240-4	.09¼	.09½	.09¼	.09½
280-3	.11¼	.11½	.11¼	.11½
280-4	.10¼	.10½	.10¼	.10½
300-3.5	.11¾	.12	.11¾	.12
350-3.5	.12¼	.12½	.12¼	.12½
400-4	.12¾	.13	.12¾	.13
500-4.5	.13¼	.13½	.13¼	.13½
100-2 Paraffin Oil	.04¼	.04½	.04¼	.04½
15-30 Cold Test:				
200-3	.07¾	.08	.07¾	.08
200-4	.07½	.07¾	.07½	.07¾
240-3	.09¼	.09½	.09¼	.09½
240-4	.08¾	.09	.08¾	.09
280-3	.10¾	.11	.10¾	.11
280-4	.09¾	.10	.09¾	.10
PENNSYLVANIA—				
Viscosity at 70° F., and Color:				
150-3	.13	.13½	.13	.13½
180-3	.16	.17	.16	.17
200-3	.18	.18¼	.18	.18¼
220-3	.20½	.21	.20½	.21
36 Miners Neutral	.05½		.05½	
34 Neutral	.05½		.05½	
34 Sundebloom Neutral	.05		.05	
GULF COAST—				
Pale Oils:				
100-2-2½	.05	.05½	.05	.05½
200-3	.07	.07½	.07	.07½
300-3	.07¾	.08	.07¾	.08
500-3½	.09	.09½	.09	.09½
750-3½	.10	.10¼	.10	.10¼
1,200-3½	.12	.12¼	.12	.12¼
2,000-4	.14	.14½	.14	.14½
Red Oils:				
200-5-6	.06	.06¼	.06	.06¼
300-5-6	.06¾	.07	.06¾	.07
500-5-6	.08	.08¼	.08	.08¼
1,200-5-6	.11	.11¼	.11	.11¼
2,000-6 plus	.13	.13¼	.13	.13¼
CALIFORNIA—				
130-2½-3	.08¼	.08¾	.08¼	.08¾
200-2½-3	.09¼	.10¼	.09¼	.10¼
300-3-3½	.10¼	.11¼	.10¼	.11¼
350-3½-4	.11¼	.12	.11¼	.12
450-3½-4	.12	.12¾	.12	.12¾
550-3½-4	.12¾	.13¾	.12¾	.13¾
200-4½-5	.09¼	.10¼	.09¼	.10¼
300-5-6	.10½	.11	.10½	.11
400-5-6	.11½	.12½	.11½	.12½
500-5-6	.12¾	.13½	.12¾	.13½
600-5-6½	.13½	.14¼	.13½	.14¼
700-6½ plus	.14½	.15¼	.14½	.15¼
NEW YORK (Bayonne, N. J.)—				
Paraffin Oil:				
25 pale	.10¼		.10¼	
28 pale	.07¼		.07¼	
280 red	.12½		.12½	
250 red	.11½		.11½	
225 red	.10		.10	
200 red	.09¼		.09¼	

BRIGHT STOCKS AND STEAM REFINED STOCKS

	Feb. 2		Jan. 26	
OKLAHOMA (Group 3)—				
600 light green S.R.	.04	.06	.04	.06
600 dark green S.R.	.03	.04½	.03½	.05
Bright Stock:				
190-200 D	.18½		.18½	
150-160 D, 0-10	.16½		.16½	
150-160 D, 10-25	.16		.16	
150-160 D, 25-40	.15½		.15½	
150-160 E	.15	.15½	.15	.15½
PENNSYLVANIA—				
600 S.R.	.11	.11½	.11	.11½
650 S.R.	.13¾	.14	.13¾	.14
600 Pennsylvania flash	.15	.16	.15	.16
600 E filtered	.14	.15	.14	.15
600 D filtered	.17½	.18	.17½	.18
Pennsylvania Grade Bright Stock:				
10-15 pour test	.20	.21	.19	.20

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement unless otherwise noted.

U. S. Motor, 67 octane num.	.05¼		.05¼	
U. S. Motor, 69 octane num.	.05½		.05½	
58-62 400 endpoint gasoline	.04½		.04½	.05
KEROSENE				
GULF COAST—				
41-43 prime white	.04¼		.04¼	
41 water white	.04½		.04½	
LOS ANGELES, CALIF.—				
41-43 water white	.04	.04¾	.04	.04¾
LUBRICANTS				
NEW YORK (Bayonne, N. J.)—				
600, steam refined cylinder stocks, in bbls.	.19	.20	.19	.20
650, steam refined	.22	.23	.22	.23
600, Pennsylvania flash	.24	.25	.24	.25
630, Pennsylvania flash	.27	.28	.27	.28
600, Warren E	.22½	.23	.22½	.23
600, Oil City E	.21½	.22	.21½	.22
Light 140-150 Bright Stocks	.27	.28	.27	.28
Dark 140-150 Bright Stocks	.26	.27	.26	.27
Petrolatum in barrels in carload lots:				
Dark green	.01¾		.01¾	
Amber	.02¼		.02¼	
Extra amber	.02¾		.02¾	
Cream	.04¾		.04¾	
Lily white	.05¾		.05¾	
Snow white	.06⅝		.06⅝	

EXPORT PRICES

GASOLINE

OKLAHOMA (Group 3)—	Feb. 2	Jan. 26
U. S. Motor	.04½	.04½
60-62 400 endpoint	.04⅝	.04⅝
61-63 390 endpoint	.04⅝	.04⅝
64-66 375 endpoint	.04¾	.04¾
LOS ANGELES, CALIF.—		
U. S. Motor, 53-55 437 e.p.	.04 .04½	.04 .04½

U. S. Motor, 65 octane num.	.05		.05	
25-30 pour test	.19		.19	
35 and above	.18½	.19	.18½	.19

WAX AND PETROLATUM

(Prices per pound.)

OKLAHOMA (Group 3)—	Feb. 2		Jan. 26	
124-126 white crude scale	.01⅝	.01¾	.01⅝	.01¾
PENNSYLVANIA—				
At New York:				
122-124	.02⅛		.02⅛	
124-126	.02⅛		.02⅛	
NEW YORK (Bayonne, N. J.)—				
Refined Wax:				
120-122	.02⅝		.02⅝	
125-127	.02⅞		.02⅞	
130-132	.03⅝		.03⅝	
133-135	.03¾		.03¾	
135-137	.04⅛		.04⅛	

CALIFORNIA CRUDE OIL PRICES

STANDARD OIL CO. OF CALIFORNIA

For its current purchases of crude oil at the well (unless otherwise specified) the allowable crude oil produced in accordance with allocations made by the California Statewide Curtailment Committee. All gravities above those quoted take highest price offered in that field. Effective June 19, 1931 at 7 a.m.

Gravity	Signal Hill	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Olinda-Brea, Canon	Torrance	Richfield	Coyote Hills	Santa Fe Springs	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills
14-14.9	$.65	$.65	$.65	$.65	$.65	$.65	$.65	$.65	...	$.55	$.55
15-15.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
16-16.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
17-17.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
18-18.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
19-19.9	.65	.65	.65	.65	.65	.65	.65	.65	...	.55	.55
20-20.9	.66	.66	.66	.66	.66	.65	.65	.65	...	.55	.55
21-21.9	.66	.66	.66	.68	.67	.65	.66	.65	...	.55	.57
22-22.9	.66	.66	.66	.70	.68	.66	.68	.65	...	.56	.59
23-23.9	.67	.67	.68	.72	.70	.67	.70	.66	...	.58	.60
24-24.9	.69	.69	.70	.74	.72	.68	.72	.67	$.65	.61	.62
25-25.9	.71	.71	.72	.76	.74	.70	.74	.69	.65	.64	.64
26-26.9	.73	.73	.74	....	.76	....	....	.71	.65	.66	.65
27-27.9	.75	.75	.76	....	.78	....	....	.73	.68	.68	.67
28-28.9	.77	....	....	....	.80	....	....	.75	.71	.71	.69
29-29.9	.79	....	....	....	....	....	....	.77	.73	.74	.71
30-30.9	.81	....	....	....	....	....	....	.79	.75	.76	.72
31-31.9	....	....	....	....	....	....	....	....	.78	....	....
32-32.9	....	....	....	....	....	....	....	....	.80	....	....
33-33.9	....	....	....	....	....	....	....	....	.83	....	....
34-34.9	....	....	....	....	....	....	....	....	.85	....	....
35-35.9	....	....	....	....	....	....	....	....	.87	....	....

Standard Oil Co. of California prices in other fields:

Wheeler Ridge—55 cents per barrel for all grades (14° to 25.9°).

Coalinga—55 cents for all grades from 14° to 24-24.9°; 57 cents for 25 gravity.

Newhall, McKittrick and Kern River—55 cents for all grades (14° to 19.9°).

Montebello—55 cents for all grades (14° to 25.9°).

Whittier and LaHabra—65 cents for all grades (14° to 22.9°).

Elwood Terrace, f.o.b. ship—33° to 33.9°, 79 cents; 34° to 34.9°, 81 cents; 35° to 35.9°, 84 cents; 36° and above, 87 cents.

Playa Del Rey—Prices subject to field gathering charge of 5 cents per barrel—19° to 19.9°, 65 cents; 20° to 20.9°, 65 cents; 21° to 21.9°, 66 cents; 22° to 22.9°, 67 cents; 23° to 23.9°, 68 cents; 24° to 24.9°, 67 cents; 25° and above, 68 cents.

(Continued on Page 79)

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

East Texas (Nov. 2, 1931)†.....$ .83
Corsicana heavy (Nov. 2, 1931)*..... .49
Other fields.....See gravity table

†Posted by Panola Pipe Line Co., Magnolia Petroleum Co., Tidal Refining Co., Sinclair Refining Co., Gulf Pipe Line Co., Atlas Pipe Line Co. *Magnolia Petroleum Co.

EASTERN STATES

Joseph Seep Purchasing Agency
(Effective December 16, 1931)

Pennsylvania Grade Oil in National Transit Lines (Bradford Field) $1.85
Pennsylvania Grade Oil in Southwest Pennsylvania Lines 1.55
Penna Grade Oil in Eureka Pipe Line Lines (West Virginia) 1.45
Penna Grade Oil in Buckeye Pipe Line Lines 1.25
Corning Grade Oil in Buckeye Pipe Line Co.'s line (Nov. 9, 1931) ..... .85
Ragland Grade Oil in Cumberland Pipe Lines (Kentucky) (Jan. 10, 1931) ... .60
Wayne district Oil in Cumberland Pipe Lines (April 23, 1931) 1.17

Tide Water Pipe Co.
(Effective December 16, 1931)

Bradford, Pa. $1.85
Allegany, N. Y. 1.85

Pure Oil Co.
(Effective December 16, 1931)

Cabin Creek, W. Va. $1.45
Bradford Hollow, W. Va. 1.45
Kelly's Creek, W. Va. 1.45

Pennzoil Co.
(Effective December 16, 1931)

Pennsylvania Grade Oil in National Transit Lines:
Group A $1.80
Includes Cochran, Franklin, Hamilton and Doolittle districts.
Group B $1.79
Includes Titusville district.
Group C $1.78
Includes Turkey and Tidiout districts.
Group D $1.77
Includes Bear Creek and Porkey districts.
Group E $1.75
Includes Eldenau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacy and Kinzua districts.
Price depends on length of pipe line haul to plant at Oil City.

TEXAS PANHANDLE

Gray County, Wheeler County and Carson-Hutchinson Counties....See gravity table

ROCKY MOUNTAIN STATES

Ohio Oil Co.-Midwest Refining Co.

Iles, light (Aug. 24, 1931) .....$ .75
Iles, heavy (Aug. 24, 1931) ..... .53
Fort Collins (Nov. 3, 1931) ..... .71
Florence (Nov. 3, 1931) ..... .65
Wellington (Nov. 3, 1931) ..... .61
Dutton Creek (Nov. 3, 1931) ..... .75
Rock Creek, Wyo. (Nov. 3, 1931) ..... .85
Frannie, light (Nov. 3, 1931) ..... .61
Frannie, heavy (Nov. 3, 1931) ..... .51
Salt Creek.....Mid-Continent gravity table
Big Muddy (Nov. 3, 1931) ..... .33
Grass Creek (Nov. 3, 1931) 1.05
Elk Basin (Nov. 3, 1931) 1.05
Lance Creek (Aug. 24, 1931) 1.05
Poison Spider (Mar. 5, 1931) ..... .70
Notches (Mar. 14, 1927) ..... .65
Hudson (June 2, 1931) ..... .65
Lander (Mar. 5, 1931) ..... .40
Rex Lake (Feb. 22, 1930) 1.10
Osage (Apr. 15, 1931) ..... .98
Lost Soldier (Nov. 3, 1931) ..... .69
Hamilton Dome (Nov. 3, 1931) ..... .45
Greybull (Nov. 3, 1931) 1.05
Cat Creek (Nov. 3, 1931) 1.05
Pondera (Nov. 3, 1931) ..... .90
Sunburst, Mont. (Nov. 3, 1931) 1.00
Hogback, N. Mex. (Aug. 24, 1931) .... .80
Lea County, N. Mex. (Nov. 3, 1931).. .50
Border, Mont. 1.55
Red Coulee, Alberta 1.55
Dry Creek, Mont. (Aug. 24, 1931) 1.00
Maljamar (Aug. 22, 1931) 1.00
Artesia-Jackson (Nov. 3, 1931) ..... .50

Note—Salt Creek, Cat Creek, Dry Creek, Dallas-Derby, Hudson, Greybull and Hogback posted by Midwest Refining Co. and remainder by Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Border and Red Coulee posted by Imperial Refining Co. Lea County posted by Humble Oil & Refining Co. Fort Collins, Wellington, Orchard, Florence, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro Oil & Refining Co.

WEST TEXAS

Iatan and Westbrook..Same as North Texas
Crane, Upton, Crockett, Howard, Glasscock, Ector, Winkler and Pecos Counties* .....$ .50
Lea County, N. Mex.‡ ..... .50
Toborg, Pecos County, Aug. 25, 1931†. .25

*The Texas Company, November 2, 1931; Magnolia Petroleum Co., Humble Oil & Refining Co., Gulf Pipe Line Co., same day. †Shell Petroleum Corp. ‡Humble Oil & Refining Co., The Texas Company, November 2, 1931.

GULF COAST

Grade A and Grade B classifications discontinued by leading buyers.....
.....See gravity table
Jennings, La. (Nov. 2, 1931)* .....$ .65
Lockport, La. (Aug. 27, 1931)†.....
.....See Gulf Coast gravity table
Refugio light.....See gravity table
Refugio heavy (Nov. 2, 1931)‡ ..... .75

(Continued on Page 74)

CRUDE OIL GRAVITY TABLE

Gravity	1—Kansas and Oklahoma	2—North and Central Texas	3—East Central Texas	4—Gray County, Texas	5—Carson and Hutchinson Counties, Texas	6—Salt Creek, Wyo.	7—North Louisiana and Arkansas	8—Gulf Coast (Tex. and La.)	9—Cameron Meadows, La.
Below 25 degrees	...	...	...	...	...	...	...	$.70	$.60
25-25.9 degrees	...	...	...	...	...	...	...	.71	.60
26-26.9 degrees	...	...	...	...	...	...	...	.72	.61
27-27.9 degrees	...	...	...	...	...	...	...	.73	.62
28-28.9 degrees	...	...	...	...	...	...	...	.74	.63
Below 29 degrees	$.61	$.61	$.61	...	...	$.61	$.61	...	...
29-29.9 degrees	.63	.63	.63	...	...	.63	.63	.75	.64
30-30.9 degrees	.65	.65	.65	...	...	.65	.65	.76	.65
31-31.9 degrees	.67	.67	.67	...	...	.67	.67	.77	.66
32-32.9 degrees	.69	.69	.69	...	...	.69	.69	.78	.67
33-33.9 degrees	.71	.71	.71	...	...	.71	.71	.79	.68
34-34.9 degrees	.73	.73	.73	$.61	$.56	.73	.73	.80	.69
35-35.9 degrees	.75	.75	.75	.63	.58	.75	.75	.81	.70
36-36.9 degrees	.77	.77	.77	.65	.60	.77	.77	.82	.71
37-37.9 degrees	.79	.79	.79	.67	.62	.79	.79	.83	.73
38-38.9 degrees	.81	.81	.81	.69	.64	.79	.81	.84	.73
39-39.9 degrees	.83	.83	.83	.71	.66	.79	.83	.85	.74
40 degrees and over	.85	.85	.85	.73	.68	.79	.85	.86	.75

Column 1—Led by Continental Oil Co. effective November 2, 1931, and adopted on same day by other companies excepting Magnolia Petroleum Co. and White Eagle Oil Corp. and excepting that Carter Oil Co., Gypsy Oil Co., and Pure Oil Co. started their schedule at below 25 degrees, 53 cents; 25 degrees, 55 cents; with 2 cents added for each degree upward to 40 degrees and above at 85 cents. Magnolia Petroleum Co. adopted the price schedule in Oklahoma on January 8, 1932, and the White Eagle Oil Corp. in Kansas on January 1, 1932, on oil from 29 degrees upward, but posted 52 cents for oil below 25 gravity and 54 cents for 28 gravity.

Column 2—Led by Continental Oil Co. effective November 2, 1931, and followed by other purchasers on same day excepting Magnolia Petroleum Co. which met the prices on January 8, 1932, from 29 degrees upward, posting 52 cents for oil below 28 degrees and 54 cents for 28 gravity oil.

Column 3—Humble Oil & Refining Co. on November 2, and by other buyers excepting Magnolia Petroleum Co., which met the prices from 29 degrees upward on January 8, 1932, but posted 52 cents for oil below 28 degrees and 54 cents for 28 gravity oil.

Column 4—Led by The Texas Company, November 2, followed by Humble Oil & Refining Co., Gulf Pipe Line Co. and H. F. Wilcox Oil & Gas Co. same day. Magnolia Petroleum Co., January 8, 1932.

Column 5—Led by The Texas Company, November 2, followed on same day by Humble Oil & Refining Co. and Gulf Pipe Line Co. Magnolia Petroleum Co., January 8, 1932.

Column 6—Midwest Refining Co., November 2.

Column 7—Standard Oil Co. of Louisiana, November 4, 1931; The Texas Company, Gulf Refining Co. and Louisiana Oil Refining Co. same day. Magnolia Petroleum Co., January 8, 1932.

Column 8—Led by The Texas Company, November 2, followed on same day by Humble Oil & Refining Co., Vacuum Oil Co., Gulf Pipe Line Co. and Sun Oil Co., but two last named companies' schedules stop at 35 degrees and above at 81 cents, and the Sinclair Refining Co., but latter company's schedule stops at 31 degrees and above at 71 cents. Magnolia Petroleum Co. applied this schedule to Lockport and Iowa, La.

Column 9—Magnolia Petroleum Co., January 8, 1932.

TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns Feb. 3.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Chicago	15.0	15.0	3.0	9.0
Decatur, Ill.	15.5	15.5	3.0	9.1
E. St. Louis	14.8	14.8	3.0	8.3
Joliet	15.5	15.5	3.0	9.1
Peoria	15.5	15.5	3.0	9.1
Quincy	15.3	15.3	3.0	8.9
Davenport, Ia.	15.6	15.6	3.0	9.4
Des Moines	15.6	15.6	3.0	8.1
Keokuk	15.6	15.6	3.0	8.4
Sioux City	15.3	15.3	3.0	9.0
Duluth, Minn.	16.6	16.6	3.0	10.0
Mankato	16.2	16.2	3.0	8.1
Minneapolis	14.5	16.3	3.0	10.0
LaCrosse, Wis.	17.3	17.3	4.0	10.1
Milwaukee	16.2	16.2	4.0	9.0
Madison	16.4	16.4	4.0	9.2
Detroit, Mich.	14.5	14.5	3.0	9.1
Grand Rapids	15.3	15.3	3.0	10.7
Saginaw	13.2	13.2	3.0	10.9
Evansville, Ind.	16.2	16.2	4.0	10.0
Indianapolis	16.4	16.4	4.0	10.2
South Bend	16.5	16.5	4.0	8.1
Fargo, N. D.	13.0	13.0	3.0	12.0
Huron, S. D.	17.4	17.4	4.0	10.8
Sioux Falls	16.9	16.9	4.0	10.5
K. C., Mo.	15.0	15.0	3.0	7.9
Springfield*	15.0	16.0	3.0	8.6
St. Louis*	14.0	14.0	3.5	8.4
St. Joseph	14.6	14.6	3.0	7.6
Wichita, Kans.	13.9	13.9	3.0	8.1
Bartlesville, Ok.	13.1	15.1	4.0	7.1

*State tax 2 cents, remainder city tax.

A third grade of gasoline, "Stanolind Blue," is sold at all major points at a price 1½ cents or more below the price on the regular grade.

Effective November 4—New dump discount applicable on all grades of gasoline sold from tank wagon. Any tank wagon customer buying 25 gallons or more at one time will be given 1-cent discount per gallon off tank wagon price at time of delivery. Customers not under contract receive no other discount.

Effective January 1—Discounts on Q.D.A. on 500 gallons or more per month throughout territory; Red Crown Ethyl Gasoline, 3 cents off tank wagon price; Red Crown gasoline, 2½ cents off tank wagon price; Stanolind Blue gasoline, 1 cent off tank wagon price. On deliveries of 75,000 gallons or more each classification allowed 1 cent additional discount.

Discounts on resellers authorized agent's agreement: Same amounts as above except made off service station price instead of tank wagon price.

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Dallas, Tex.	15.0	16.0	4.0	8.0
Fort Worth	15.0	16.0	4.0	7.0
Houston	14.0	16.0	4.0	8.0
San Antonio	14.0	16.0	4.0	7.0
El Paso	16.0	18.0	4.0	10.0
Texarkana	14.0	16.0	4.0	8.0
Muskogee, Ok.	13.0	14.0	4.0	6.0
Okla. City	15.0	17.0	4.0	7.0
Tulsa	15.0	17.0	4.0	8.0
Ft. Smith, Ark.	*17.5	18.0	5.0	*11.0
Little Rock	*18.5	18.0	6.0	*11.0

One-cent rebate made from posted station prices to cash purchasers in Louisiana, Arkansas and Tennessee.

*Less 2 cents to dealers.

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Denver, Colo.	12.0	16.0	4.0	13.5
Pueblo	12.0	16.0	4.0	12.0
Grand Jcts.	18.0	21.0	4.0	14.5
Casper, Wyo.	15.0	18.0	4.0	10.8
Cheyenne	†14.0	14.0	4.0	11.5
Butte, Mont.	17.0	20.0	5.0	16.8
Billings	20.0	22.0	5.0	14.5
Great Falls	21.0	22.0	5.0	16.0
Helena	20.0	23.0	5.0	16.0
Salt Lake, Utah	17.5	20.5	4.0	16.0
Albu'que, N. M.	17.0	20.0	6.0	14.0
Boise, Idaho	21.0	24.0	5.0	18.0
Twin Falls*	20.5	20.0	5.0	18.0

*1½-cent discount off tank wagon to dealers.

†3-cent discount off tank wagon to dealers.

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Ohio points	15.5	16.0	4.0	*12.0

Dealers and commercial accounts 2 cents under tank wagon.

*Service station price 13 cents.

PENNSYLVANIA-DELAWARE AND PART OF NEW ENGLAND

Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Pittsburgh, Pa.	15.0	16.0	3.0	11.0
Philadelphia	14.0	15.0	3.0	11.0
Scranton	15.0	16.0	3.0	11.0
Allentown	15.0	16.0	3.0	11.0
Altoona	15.0	16.0	3.0	11.0
Erie	15.0	16.0	3.0	11.0
Dover, Del.	15.0	16.0	3.0	11.0
Wilmington	15.0	16.0	3.0	11.0
Springf'd, Mass.	15.5	16.5	3.0	8.5
Worcester	15.3	16.3	3.0	8.5
Boston	14.5	15.5	3.0	9.5
Providence, R.I.	13.5	14.5	2.0	8.5
Hartford, Conn.	14.5	15.5	2.0	10.0
New Haven	14.6	15.6	2.0	10.0

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atlanta, Ga.*	19.5	19.5	6.0	10.5
Augusta	20.0	21.0	6.0	14.0
Macon	20.0	20.0	6.0	12.0
Savannah	19.0	19.0	6.0	11.0
Birm,ham, Ala.	20.5	20.5	6.0	10.0
Mobile	20.0	20.0	5.0	10.0
Montgomery	21.5	21.5	6.0	13.5
Jackson, Miss.	17.0	17.0	5.5	11.5
Vicksburg	13.0	16.5	5.5	8.0
Jack'ville, Fla.	19.0	19.0	7.0	11.0
Miami	21.0	23.0	7.0	13.0
Pensacola	20.0	20.0	7.0	13.0
Tampa	19.0	19.0	7.0	12.0
Lexington, Ky.	17.0	18.0	5.0	10.0
Covington	16.0	17.0	5.0	12.0
Louisville	15.0	16.0	5.0	11.0
Corbin	18.0	19.0	5.0	15.0

A third grade "Kyso Green," is sold at a price generally 2 cents below the price on the regular grade.

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 2 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fourth cent on gasoline. To Pensacola, Montgomery and Birmingham state taxes add 1-cent levy tax. To Gulfport state tax add privilege tax of 2 cents. To Mobile state tax add 1-cent city tax and 2½ cents county tax.

Effective April 2 price to dealers 2 cents under posted tank wagon price.

*An additional discount of 1 cent is offered to dealers effective October 6.

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Atl'tic City, N.J.	15.7	16.7	3.0	11.5
Newark	14.7	15.7	3.0	10.5
Annapolis, Md.	16.3	17.3	4.0	10.0
Baltimore	15.4	16.4	4.0	8.3
Cumberland	17.3	18.3	4.0	12.0
Wash'g'n, D.C.	13.9	14.9	2.0	10.0
Danville, Va.	18.0	19.0	5.0	11.5
Norfolk	16.5	17.5	5.0	10.3
Petersburg	17.5	18.5	5.0	11.3
Richmond	16.5	17.5	5.0	10.7
Roanoke	18.3	19.3	5.0	12.0
Charles'n, W.Va.	16.7	17.7	4.0	11.5
Parkersburg	15.4	16.4	4.0	10.3
Wheeling	16.6	17.6	4.0	11.4
Charlotte, N. C.	16.0	17.0	6.0	10.7
Hickory	19.8	20.8	6.0	13.6
Mt. Airy	19.7	20.7	6.0	13.5
Raleigh	19.4	20.4	6.0	13.3
Salisbury	19.7	20.7	6.0	12.5
Charleston, S.C.	17.5	18.5	6.0	10.3
Columbia	19.4	20.4	6.0	12.3
Spartanburg	19.7	20.7	6.0	13.5

Two cents per gallon discount off retail tank wagon price of gasoline to dealers except Washington, D. C., and States of Maryland and New Jersey, where discount is 3 cents.

Prices shown above are for standard gasoline.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Albany, N. Y.	16.6	17.6	2.0	15.6
New York*	13.3	14.3	2.0	14.3
Buffalo	15.8	15.8	2.0	14.8
Rochester	16.0	16.0	2.0	14.0
Syracuse	16.8	16.8	2.0	14.8
Boston, Mass.	16.5	16.5	3.0	13.5
Augusta, Me.	15.8	15.8	4.0	14.3
Manch'tr, N. H.	13.4	13.4	4.0	14.0
Burlington, Vt.	19.3	19.3	4.0	15.3

*Prices in steel barrels.

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
Omaha	14.9	15.9	4.0	9.35
McCook	17.0	17.0	4.0	7.5
Norfolk	16.75	17.75	4.0	9.75
N. Platte	17.75	18.75	4.0	10.50
Scottsbluff	17.0	17.0	4.0	9.0

Note—Dealers' discount allowed as follows: Red Crown Ethyl, 3 cents off station price; Red Crown, 2½ cents off normal service station price; Nebraska Blue (third grade), 1 cent off normal service station price.

PACIFIC COAST TERRITORY

Standard Oil Co. of California

	Gasoline			Kero.
	Tank truck	Posted retail	Incl'ds tax of	tank wagon
Fresno	13.5	16.5	3.0	17.0
San Francisco	13.5	16.5	3.0	15.5
Los Angeles	13.0	16.0	3.0	15.5
Reno, Nev.	16.0	20.0	4.0	19.0
Portland, Ore.	14.0	18.0	4.0	16.5
Seattle, Wash.	15.0	19.0	5.0	16.5
Tacoma	15.0	19.0	5.0	16.5
Spokane	18.5	22.5	5.0	20.5
Phoenix, Ariz.	14.5	17.0	5.0	20.0

Above prices are at company's plant or depots as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent.

*Retail prices posted by Standard Stations, Inc., a subsidiary.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'ds tax of	tank wagon
N. Orleans, La.	15.5	15.5	6.0	10.0
Baton Rouge	17.0	17.0	5.0	12.0
Alexandria†	14.5	14.5	6.0	12.0
Lafayette*	18.0	18.0	6.0	12.0
Lake Charles*	16.5	16.5	6.0	12.0
Shreveport	17.0	17.0	5.0	12.0
Knoxville, Tenn.	21.5	21.5	7.0	13.5
Memphis	17.5	17.5	7.0	11.0
Chattanooga	20.0	21.0	7.0	11.0
Nashville	20.0	20.5	7.0	12.5
Bristol	20.0	20.0	7.0	14.0
Lt. Rock, Ark.	18.0	18.0	6.0	11.0

*Includes city tax of 1 cent. Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

†Gasoline price at Alexandria includes 1-cent tax in parish of Rapides.

Two-cent discount off gasoline and kerosene tank wagon price to dealer and commercial accounts.

NAPHTHA

	Tank wagon	Tank car
Oleum spirits	10.7	6.23
V.M.P. naphtha	12.7	7.73
Cleaners' naphtha	15.2	9.23
Stanisol	15.2	9.23

Tank wagon prices f.o.b. Chicago January 6, 1932. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

STANOLIND FURNACE OIL IN CHICAGO

Effective July 1, prices f.o.b. Chicago, tank wagon prices: 1 to 99 gallons, 8 cents; 100 gallons or more, 6 cents.

Stanolex Fuel

Effective May 9, f.o.b. Chicago, tank wagon prices: 1 to 199 gallons, 7 cents; 200 gallons or more, 5 cents. Sinclair met this by bringing down the price of its No. 3.

Fuel Oils

Chicago tank wagon prices (in lots of 400 gallons and over): 38-40 straw distillate, 6 cents; 32-36 gas oil (light zero), 5.5 cents; 32-36 gas oil (industrial), 5.25 cents; 28-30 zero fuel oil, 5 cents; 24-26 fuel oil, 4.25 cents; 18-22 fuel oil, 3.75 cents.

TANK WAGON CHANGES

Standard Oil Co. of New Jersey, effective January 21, reduced gasoline tank wagon prices 1½ cents at Charlotte, N. C.

Continental Oil Co., effective January 5, reduced gasoline tank wagon and service station prices one-half cent at Albuquerque, N. Mex.

Standard Oil Co. of Kentucky, effective January 7, reduced gasoline tank wagon and service station prices 1 cent at Covington, Ky.

Standard Oil Co. of Indiana effective January 21 advanced gasoline service station price from 12.8 to 14.8 cents at East St. Louis; effective January 28 gasoline service station price at Davenport, Iowa, advanced from 13 to 15.6 cents; effective January 23 gasoline tank wagon and service station prices advanced at Des Moines from 13 to 15.6 cents; effective January 28 advanced gasoline service station price at Minneapolis from 14.5 to 16.3 cents; effective January 23 advanced gasoline tank wagon and service station prices at St. Joseph, Mo., from 10.5 to 14.6 cents.

REESER ACCEPTS

SACRAMENTO, Calif., Feb. 1.—Governor Rolph has announced that E. B. Reeser of Tulsa has accepted appointment to make a survey of the oil industry in California with a view to stabilizing the industry.

CRUDE OIL PRICES

(Continued from Page 73)

Markham (Nov. 2, 1931)‡ ..... .67
High Island (Nov. 2, 1931)‡ ..... .65

*Gulf Refining Co. †Vacuum Oil Co. ‡Humble Oil & Refining Co. §The Texas Company. ¶Gulf Pipe Line Co.

NORTH LOUISIANA AND ARKANSAS

Smackover, Ark. (all grades) (Nov. 4, 1931) ..... $ .55
Urbana, Ark. ..... See note below
Bellevue, La. (June 3, 1931) ..... .25
Urania, La. (Nov. 2, 1931) ..... .50
Calion, Ark. (Aug. 22, 1931) ..... .52
East El Dorado, Ark. (Nov. 4, 1931) .. .55
Stephens, Ark., below 29° (Aug. 24, 1931) ..... .41
Stephens, Ark., 29° and above (Aug. 24, 1931) ..... .44
Other fields ..... See gravity table

Note—Smackover, all grades, Standard Oil Co. of Louisiana, The Texas Company, Gulf Refining Co., Magnolia Petroleum Co., Bellevue posted by Magnolia Petroleum Co.; Urania by H. L. Hunt, Inc., and Louisiana Oil Refining Co.; Calion by Gulf Refining Co.; East El Dorado by Gulf Refining Co. and Magnolia Petroleum Co.; Stephens, Ark., by Louisiana Oil Refining Co. and Atlantic Oil Producing Co.

SOUTH CENTRAL AND SOUTHWEST TEXAS

Darst Creek (Nov. 2, 1931)‡ ..... $ .60
Luling (Nov. 2, 1931)† ..... .49
Mirando (Nov. 2, 1931)† ..... .75
Pettus (Nov. 2, 1931)* ..... .85
Salt Flat (Nov. 2, 1931)* ..... .60
Thrall§ ..... .
Lytton Springs (Lockhart) .See gravity table
Dobrowolski¶ ..... .
Same as Mid-Continent gravity scale up to and including 38-38.9°.
Somerset¶ ..... .
Same as Mid-Continent gravity scale up to and including 38-38.9°.

‡The Texas Company. *Humble Oil & Refining. †Magnolia Petroleum Co. §Thrall prices same as North Central Texas less 19½ cents per cwt. freight. ¶Grayburg Oil & Refining Co., Pioneer Oil & Refining Co. and Texas Petroleum Products. ||Pioneer Oil & Refining Co.

MIDDLE WESTERN STATES

Ohio Oil Co.

(Effective November 3, 1931)

Lima $1.00
Wooster 1.15
Illinois ..... .95
Indiana ..... .60
Princeton ..... .95
Plymouth ..... Shut in
Western Kentucky ..... .90
Midland, Mich. (Oct. 9, 1931)* ..... .55
Dundee, Mich.† ..... .
Same as Stanolind Crude Oil Purchasing Co.'s Mid-Continent gravity scale
Upper and Lower Traverse Sands, Mich.† .....Same as Mid-Continent gravity scale
Somerset, Ky. (Nov. 4, 1931) ..... .80
Hart County, Ky. (Jan. 18, 1932)‡ .... .60

*Posted by Pure Oil Co. †Posted by Standard of Indiana for boat shipment. ‡Posted by Stoll Refining Co. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and delivered through its own pipe line.

MEXICO

Panuco* ..... $ .45

*F.o.b. ship, based on October transactions and exclusive of production and export taxes and bar dues.

CANADA

Ontario (Nov. 3, 1931):
Petrolia* $1.90
Oil Springs* 1.97
Alberta (Aug. 24, 1931):
Turner Valley†:
Crude oil 45-45.9 ..... 2.03
Crude oil 50 and above 2.65
Crude naphtha 3.12
Discolored naphtha 2.88

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Of Interest to Sales Departments

All Companies to Distribute Third California Grade

LOS ANGELES, Calif., Jan. 30.—Marketers on the Pacific Coast, after a long period of uncertainty, finally decided to introduce a third-grade gasoline, and preparations are going forward to put this new motor fuel on the market as quickly as possible. The decision of major companies to market a third-grade gasoline is attributed to the inability of independent refiners to stabilize prices and because of a difference of opinion existing among major companies. The Texas Company introduced the competitive grade of gasoline in the San Diego territory late in January and started installing third pumps in Los Angeles territory a day or so later. In stations having only two pumps the company is installing an additional pump and a separate 550-gallon container for the storage of its fighting grade of gasoline which it will put out under the trade name of Calpet Green-Lite. The California Petroleum Corp., subsequently acquired by The Texas Company, marketed Calpet gasoline on the Pacific Coast for several years but upon the merger of these two companies Calpet lost its identity and was replaced by Texaco gasoline in conformity with The Texas Company's national policy. Calpet, The Texas Company's new third-grade gasoline, is colored green and it is the general opinion that the third structure gasoline of other companies will be of a similar color.

It may be another two weeks before the program of major companies is completed, as the introduction of this third-grade gasoline will require the installation of additional storage facilities and new pumps in a number of existing service stations. In the meantime, of course, major companies will utilize stations with multiple pumps for the introduction of the third grade. The Richfield Oil Co., which has been marketing a third structure gasoline in competitive areas for several months under the trade name of Flash gasoline, has already started putting Flash gasoline in all Southern California stations having a third pump. The Shell, Standard, Union and Associated are completing arrangements to introduce the third structure gasoline and increase the number of outlets by installing

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TANKERS FOR GREAT LAKES

CHATHAM, Ontario, Jan. 30.—Announcement has been made that the Shell Oil Co. of Canada has completed arrangements for transportation of its products from the Montreal plant to ports on the Great Lakes by tankers. The keel of the first tanker, "Lakeshell," has been laid at Newcastle-on-Tyne, England. It will probably be launched in March, and registered at the port of Toronto in April. The "Lakeshell" will have a capacity of 600,000 gallons per trip. Design and construction are in the hands of the Anglo-Saxon Petroleum Co. of London, England, Shell's marine subsidiary.

REDUCE INSPECTION FEE

The oil inspection department of Minnesota announces that it has reduced the inspection fee from 2¼ cents per barrel to 2 cents per barrel. This change is effective as of January 1 and will make its first appearance on the bills which are submitted on February 15, covering January inshipments. This amounts to 40 cents for each 8,000-gallon tank car. The total reduction made in the inspection fee in Minnesota in the past few years amounts to 1 cent per barrel, or a total of $1.60 for each 8,000-gallon tank car.

TAX REPORTS POINT TO SMALL INCREASE IN GASOLINE DEMAND

Gasoline consumption in 46 states and the District of Columbia for the month of November, 1931, as indicated by reports made by wholesalers and dealers in the various states, under provisions of the gasoline tax laws or gasoline inspection laws, totaled 1,116,042,000 gallons, compared with 1,093,335,000 gallons in November, 1930, an increase of 22,707,000 gallons, or 2.1 per cent. Daily average consumption for November, 1931, was 37,201,000 gallons compared with a daily average of 40,311,000 gallons in October, 1931, a decrease in daily average during November of 7.7 per cent.

Gasoline consumption in these 46 states and the District of Columbia for the 11 months ending with November, 1931, amounted to 12,968,637,000 gallons, compared with 12,441,681,000 gallons for the corresponding period of 1930, an increase of 526,956,000 gallons, or 4.2 per cent.

The figures giving the quantity of gasoline sold or offered for sale, as reported under various laws, follow. In some cases they are gross figures before deductions allowed for small quantities of gasoline reshipped or sold for other than taxable use, the tax upon which, if paid, is subsequently refunded. All figures which are subject to revision were compiled by the American Petroleum Institute.

CONSUMPTION BY STATES

	Month of Nov., 1931 gallons	Nov., 1930 gallons
Alabama	13,102,000	13,037,000
Arizona	5,756,000	6,113,000
Arkansas	10,601,000	9,550,000
Colorado	12,633,000	12,793,000
Connecticut	19,242,000	17,759,000
Delaware	2,942,000	2,507,000
Dist. of Columbia	7,892,000	6,761,000
Florida	17,645,000	18,625,000
Georgia	18,369,000	17,256,000
Idaho	4,398,000	4,835,000
Indiana	37,014,000	42,493,000
Iowa	30,853,000	33,600,000
Kansas	26,628,000	27,012,000
Kentucky	14,785,000	13,702,000
Louisiana	15,496,000	16,406,000
Maine	8,954,000	8,768,000
Maryland	15,765,000	14,430,000
Massachusetts	47,023,000	43,441,000
Michigan	63,948,000	63,279,000
Minnesota	34,827,000	33,179,000
Mississippi	*10,482,000	12,023,000
Missouri	37,460,000	38,340,000
Montana	4,719,000	5,846,000
Nebraska	16,689,000	18,643,000
Nevada	1,776,000	1,430,000
New Hampshire	5,249,000	4,990,000
New Jersey	43,614,000	47,847,000
New Mexico	4,094,000	4,480,000
New York	131,389,000	120,377,000
North Carolina	22,498,000	22,272,000
North Dakota	7,107,000	7,559,000
Ohio	78,273,000	77,766,000
Oklahoma	25,467,000	26,511,000
Oregon	12,252,000	12,749,000
Pennsylvania	91,712,000	83,063,000
Rhode Island	7,551,000	7,995,000
South Carolina	9,852,000	10,068,000
South Dakota	9,054,000	10,546,000
Tennessee	17,821,000	16,478,000
Texas	68,512,000	61,715,000
Utah	4,794,000	4,447,000
Vermont	4,068,000	3,890,000
Virginia	20,738,000	18,340,000
Washington	22,489,000	20,531,000
West Virginia	12,479,000	11,771,000
Wisconsin	35,282,000	35,437,000
Wyoming	2,743,000	2,675,000
Total	1,116,042,000	1,093,335,000
Daily average	37,201,000	36,445,000
Increase over previous year:		
Amt. of increase	22,707,000	.....
Percentage increase in daily average	2.1%	.....

*Estimated.

KEROSENE SALES GIVE WAY TO DISTILLATES

The falling off in the quantity of kerosene used throughout the states of Minnesota, North Dakota, South Dakota and Wisconsin in the past three years is emphasized in the final tax reports for 1931. The increasing use of distillates and furnace oil is also indicated in the tax report from Minnesota.

Following is a tabulation of the quantities of gasoline and kerosene consumed in these states together with the distillate consumption in Minnesota:

MINNESOTA

	Gallons Gasoline	Kerosene	Distillate
1929	357,903,459	41,523,772	36,656,033
1930	401,441,670	37,848,429	46,000,113
1931	441,746,269	30,730,994	48,189,995

NORTH DAKOTA

1929	124,382,637	15,340,533	(*)
1930	120,033,734	15,250,266	(*)
1931	114,788,137	8,666,075	(*)

SOUTH DAKOTA

1929	120,543,999	15,694,565	(*)
1930	140,580,310	15,369,657	(*)
1931	137,652,450	10,936,093	(*)

WISCONSIN

1929	403,701,000	40,990,650	(*)
1930	448,905,600	36,986,700	(*)
1931	464,874,400	31,925,900	(*)

*Not available.

UNITED KINGDOM EXPORTS OFF

NEW YORK, Feb. 1.—Exports of refined petroleum from Great Britain in 1931 totaled 66,998,820 gallons, valued at £1,428,977, against 103,545,377 gallons, valued at £2,591,697 in 1930.

Exports of gasoline from the United Kingdom last year were 30,698,193 gallons, against 31,883,132 gallons in 1930, with kerosene exports at 11,504,476 gallons, aganist 14,571,681 gallons in the previous year. The sharpest decline recorded for the year was in fuel oil, exports in 1931 amounting to but 9,841,775 gallons, against 37,182,797 gallons in 1930.

These figures cover only exports of refined products manufactured in the United Kingdom.

START TRUCK HEARINGS

The Senate Committee on Interstate Commerce opened hearings in Room 412, Senate Office Building, Washington, D. C., at 10:30 a.m., February 1, on the Couzens Bill (S2,793) designed to provide for federal regulation of trucks and buses, the American Petroleum Institute has been notified. It is expected that representatives of the railroads first will be heard, and that during the hearings, to last several days, opinions will be presented by representatives of state public utility commissions, electric railways, truck and bus operators and owners, and shippers.

AGUILA GETS CONTRACT

NEW YORK, Feb. 1.—Mexican Eagle Oil Co. (Aguila) has contracted with the National Railways of Mexico for 3,000,000 bbls. of fuel oil, deliveries to commence in June when the company's pipe line from Vera Cruz to its refineries near Mexico City is completed.

The railway's fuel oil requirements were formerly handled by the National Petroleum Control Administration, Mexican government body, which delivered fuel oil at 50 cents (American) per barrel. Aguila, which is the Mexican subsidiary of the Royal Dutch-Shell group, is reported to have underbid the National Petroleum Control Administration for the business.

Car Speed Factor In Consumption of Motor Fuel and Oil

A large car running 30 miles an hour may use up less lubricating oil than a small car running the same distance at 50 miles was one of the discoveries made by the Standard Oil Co. (Indiana) in its recently completed investigation of motor fuel and motor oil performance. The same test showed that at the same speed the heavier car consumed considerable more oil.

The investigation of the Standard company covers 635,000 different readings of speedometers, thermometers, micrometers and other instruments used in measuring the behavior of oil and gasoline.

Thirteen different makes of cars, representing 88 per cent of the types in use, were first run 9,000 miles each at various speeds on the Indianapolis speedway and then taken out on the highways of 13 Middle West and Rocky Mountain states for a road test that lasted from May to Christmas. They traveled on all kinds of surfaces, in all kinds of weather. The total mileage was 401,807 miles.

Speed Increased Consumption

Consumption of both oil and gasoline was found to vary largely as between different cars and even more largely as between various speeds of operation. Oil consumption at 55 miles an hour was seven times as great as at 30 miles and gasoline consumption about 20 per cent greater.

In the speedway test, the car averages ranged from 8.68 to 15.11 miles per gallon of gasoline with a general average of 11.25 miles. On the road tour they varied from 9.04 to 17.24 miles and average 13.1 miles.

In consumption of oil on the speedway, the car averages were from 100 to 400 miles per quart and the general average was 191 miles per quart on a number of different grades and makes of oil. On the road test the range as between cars was from 93.9 to 731.1 miles with a general average of 305 miles per quart.

These figures give the motorist something with which to compare the performance of his car and the fuels and oils he uses. Age of the car was found to be an important factor in determining consumption of oil.

By test of competing oils on the speedway it was found that there was little difference in consumption under equal conditions but that important differences showed up in carbon formation and in crankcase dilution. The speedway and road work provided ample opportunity to prove the claims of oil company engineers that the high grade fuels now available will operate all cars without causing "knocking," and that prediluted oils will not thin out in the crankcase.

Wear 1/1,000 of an Inch

Oils and greases were used throughout the test in accordance with standard recommendations to car operators. Inspection and measurements at the finish showed that these recommendations are adequate to insure all cars against wear under all driving conditions. After the equivalent of three years' service every cylinder was in perfect condition and not a piston needed replacing. There was no trace of sludge or metallic particles in any of the crankcases. Surfaces at all friction points were in perfect order.

The average wear in the cylinders was found to be less than one-one thousandth of an inch. The greatest amount of wear in any one cylinder was less than three-one thousandths of an inch. This condition prevailed after 30,908 miles of use per car.

More Dividend Adjustments Looked For

Indicated Yield on a Number of Oils Out of Line. Merger Talk Involving Independent Oil Units Hold Wall Street's Interest

NEW YORK, Feb. 1.—Financial circles here are looking for a substantial number of dividend reductions or omissions by leading companies, this belief being based on the high yield at which a number of leading stocks, including some oils, are currently selling.

A number of the pipe line companies listed on the curb are currently showing extremely large yields, but dividends on most of these companies are believed to be "safe" and the present low prices are attributed almost entirely to the forced liquidation of the past few months. Crude oil runs of these pipe lines, at fixed tariff rates, are reported regularly from month to month, and there is nothing in the current operation of most of these lines to indicate any pronounced falling off in revenues.

Merger Talk

Considerable interest has developed in Wall Street circles over merger reports indicating the possibility of a consolidation by Skelly Oil, Barnsdall corporation, Phillips Petroleum and Simms Petroleum. Nothing concrete has developed in connection with the rumored deal, but the report of probable merger negotiations has been well circulated in market circles.

Liquidating Dividend

Galena Oil Corp. has declared a liquidating dividend on the common stock of one share of Valvoline Oil Co. common for each 34.691125 shares of capital stock of Galena Oil Corp. held.

Sinclair Capital Adjustment

In connection with the proposed merger of Sinclair Consolidated Oil Corp. with the Prairie companies, the Sinclair company announces a change in capital set-up as follows: "It is intended to divide the capital account into two items, one to be statutory capital, namely $5, and the other to be an account called capital surplus, to which will be transferred the surplus in excess of $5 a share. The nominal amount of $5 has no relation to the value of the shares, but is purely an arbitrary figure. The aggregate of the three items, statutory capital, capital surplus and earned surplus, less the par value of the preferred stock, divided by the number of shares issued, shows the book value, which will, of course, be many times $5.

"The directors consider it desirable to write down the book value to levels conforming to present economic conditions. To the extent of such write-downs, the capital surplus, created in the manner outlined, will be reduced, but no actual of existing value will be lost by reason of this bookkeeping adjustment and no change will be made in the shareholders' proportionate share of the assets."

Consolidated Oil

An interesting compilation of the operations of Sinclair Consolidated Oil Corp., Prairie Oil & Gas Co. and Prairie Pipe Line Co., forming the units of the proposed Consolidated Oil Corp., has been compiled by Carl H. Pforzheimer & Co.

The following table, as prepared by Pforzheimer & Co., shows comparative operating statistics of the three companies for 1931, 1930 and 1929:

	1931	1930	1929
Sinclair Consolidated Oil Corp.:			
Refining capacity, daily, bbls.	130,000	†101,000	†98,000
Gasoline marketed, gals.	*1,000,000,000	949,734,880	886,934,135
Retail outlets, No.	33,000	(‡)	(‡)
Crude oil production, net, bbls.	*10,000,000	16,788,501	18,624,265
Prairie Oil & Gas Co.:			
Total net crude output, bbls.	12,592,735	16,991,287	23,203,780
Total net crude purchases, bbls.	6,104,261	48,556,564	59,128,951
Total net crude sales, bbls.	24,856,804	64,432,096	77,896,049
Total crude in storage, Dec. 31, bbls.	50,000,000	54,000,000	(‡)
Prairie Pipe Line:			
Total oil deliveries, bbls.	32,297,545	56,672,668	75,093,661
Total pipe line mileage, miles	*14,250	14,094	13,197

*Estimated. †Actual refinery runs. ‡Not available.

Atlantic Refining

Atlantic Refining Co. and subsidiaries report for 1931 profit of $514,000 which includes a nonrecurring profit of $1,433,000 derived from the sale of current investments outside of the United States. This compares with profit of $2,742,000 for 1930. Both totals are after interest, depreciation, taxes, inventory, adjustment, etc. Earnings per share on the average number of shares of common stock outstanding last year were 19 cents, against $1.02 a share in 1930.

Hancock Oil

Hancock Oil Co. of California reports for the six months ended December 31, 1931, net earnings of $125,536 after charges and taxes, equal to 54 cents per share on 231,087 shares of common class "A" and class "B" stocks.

Sun Oil Reports

Sun Oil Co. and subsidiaries report for the year ended December 31, 1931, net profit of $3,107,147, after interest, depreciation, depletion, federal taxes, and deduction of $2,261,377 for inventory adjustment, equal, after preferred dividends, to $1.63 a share on the common. This compares with net earnings of $7,745,484, or $5.10 per share on the common, in 1930.

"The company during the year increased its funded indebtedness $3,733,000 and decreased its borrowings and other payables by approximately $3,200,000, closing the year with about $1,000,000 more cash in bank than it had at the beginning of the period," said J. Howard Pew, president.

Shell Mex-B. P., Ltd.

Shell-Mex and British Petroleum, Ltd., recently formed with nominal capital to effect the consolidation of marketing operations of the Shell and Anglo-Persian groups in the United Kingdom, has announced that the company's financial structure will consist of £8,925,100, consisting of 5,800,000 class "A" shares and 3,125,000 class "B" shares, both of £1 par and of equal ranking with existing shares.

New Jersey

The Standard of New Jersey declared the regular quarterly dividend of 25 cents and the usual extra of 25 cents, payable March 15 to stock of February 15.

Socony-Vacuum

The Socony-Vacuum corporation directors announced a dividend of 25 cents a share on March 15 to stock of February 19.

Indiana Standard

Directors of Standard Oil Co. of Indiana voted 25 cents a share dividend to stockholders on March 15, as of February 15, same as the third and fourth quarters of 1931.

National Refining

National Refining Co. and subsidiaries report for year ended December 31, 1931, net loss of $752,286 after depreciation, depletion, and inventory loss of $800,037. This compares with net income of $1,002,386 after depreciation, federal taxes, etc., in preceding year equivalent, after preferred dividends, to $1.30 a share (par $25) on 463,280 common shares. Current assets as of Dec. 31, 1931, amounted to $7,330,236 and current liabilities, including reserve for taxes, $761,256.

Twenty Representative Stocks

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange and New York Curb, based on closing quotations for Wednesday, was as follows:

Apr. 29	20.54	Sept. 16	18.30
May 6	20.74	Sept. 23	17.64
May 13	20.38	Sept. 30	15.83
May 20	19.25	Oct. 7	15.83
May 27	18.35	Oct. 14	16.43
June 3	18.00	Oct. 21	17.58
June 10	19.62	Oct. 28	16.80
June 17	19.23	Nov. 4	18.86
June 24	22.33	Nov. 11	18.76
July 1	22.32	Nov. 18	17.60
July 8	21.24	Nov. 25	16.68
July 15	19.79	Dec. 2	16.09
July 22	21.33	Dec. 9	15.38
July 29	20.68	Dec. 16	12.60
Aug. 5	20.80	Dec. 23	12.06
Aug. 12	21.00	Dec. 30	12.31
Aug. 19	24.25	Jan. 6	12.69
Aug. 26	23.26	Jan. 13	13.63
Sept. 2	22.30	Jan. 20	13.14
Sept. 9	20.28	Jan. 27	12.79

CRANFILL-REYNOLDS SALE TO ATLANTIC OIL

HOUSTON, Tex., Feb. 1.—Directors of the Cranfill-Reynolds Co. have voted approval of the plans for the sale of approximately 1,400 acres and 13 completed wells of the company's holdings in East Texas to the Atlantic Oil Producing Co. for $3,000,000 in cash. The consideration provides an immediate large payment with the remainder in notes.

The transaction involves a large part of the holdings of the Cranfill-Reynolds Co. in East Texas although approximately 400 acres with 11 producing wells and a considerable portion of the acreage in the vicinity of the company's No. 1 Rash, a wildcat in the Jamestown district of Upshur County, north of the East Texas Field, are retained by the company, as well as several other wildcat blocks, a tank farm near Longview, a gathering system in the Kilgore and Longview districts and a loading rack at Longview.

This is the second purchase made by the Atlantic Oil Producing Co. from Cranfill-Reynolds Co. in East Texas, a former acquisition having been made over a year ago for a consideration of $1,500,000. Most of the newly purchased acreage and production is in proven territory of Gregg County south of the Sabine River. Several smaller leases in Rusk County, however, are included.

STANDARD OIL STOCKS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.

(Complete record week ending Jan. 23)

1931 High	1931 Low	Week ended Jan. 23 Sales	Week ended Jan. 23 High	Week ended Jan. 23 Low	Close Jan. 27	Stocks—		Outstanding capital	Par value	Div. rate	Payable or last paid	1928 High	1928 Low	1929 High	1929 Low	1930 High	1930 Low
1	⅛	No sales ..	..	..	..	Atlantic Lobos		499,448	N.P.	....	5-28-30	..	..	..	..	1	¼
16	6	No sales ..	..	..	..	Borne Scrymser		$1,000,000	$25	....	10-15-30	56½	44½	46½	25	25	11¼
56	30	300	35	34	..	Buckeye Pipe Line		$10,000,000	$50	$1Q	12-15-31	76	53	74½	55	69	39⅞
129½	75	No sales ..	..	..	..	Chesebrough Mfg.		$3,000,000	$25	$1Q‡	12-30-31	161	117	210	130	184⅞	104¼
3⅞	1⅝	5,200	2⅛	1¾	2⅛	Creole Petroleum	(sh)	5,977,872	N.P.	....	.....	17½	9½	11¾	5⅜	7⅞	3
39	20⅝	No sales ..	..	..	30	Cumberland Pipe Line		$1,500,000	$50	50cQ	6-15-31	114	67	75¾	40	65¾	20¼
36	19	100	28	26	..	Eureka Pipe Line		$5,000,000	$100	$1Q	2- 1-32	88	64⅛	70½	40	54¾	26
3	1	No sales ..	..	..	..	Galena Signal Oil		$16,000,000	$100	....	.....	13	4¼	6½	3	7	2½
72	44¼	1,600	44	43½	43⅝	Humble Oil & Refining		$74,103,300	$25	50cQ	1- 1-32	114⅝	59½	128	74⅛	119	57¼
18¼	7⅜	1,300	8⅞	8⅜	8⅝	Imperial Oil of Canada (new)	(sh)	25,421,768	N.P.	12½cQ	12- 1-31	104	56⅜	41	22	30	15
21⅛	5½	No sales ..	..	..	..	Indiana Pipe Line (new)		$3,000,000	$10	25cQ	8-15-31	91⅞	74⅜	41⅞	26	41	14½
15½	7⅜	8,000	10⅛	9½	9½	International Petroleum (new)	(sh)	14,247,088	N.P.	25cQ	12-15-31	55	35	30⅜	15	24	11⅜
17½	5	No sales ..	..	..	..	National Transit		$6,362,500	$12.50	25cQ	12-15-31	32⅜	19⅜	25½	10½	22⅜	11½
14½	5⅞	600	9¾	8¾	..	New York Transit		$1,000,000	$10	25cQ	10-15-31	75	38½	17½	10	21⅜	10½
35¼	20	200	34	32½	..	Northern Pipe Line		$2,000,000	$50	$2SA	7- 1-31	69	56½	63	41	54	26¼
15½	5½	No sales ..	..	..	..	Penn Mex Fuel		$10,000,000	$25	50c	10-31-31	84	28	44½	20	32	12
23⅞	9¼	400	11	10⅛	10	South Penn Oil		$30,000,000	$25	25cQ	12-31-31	71⅞	36¾	60¼	35⅛	45⅞	16⅛
17	7	100	9	9	..	Southern Pipe Line		$1,000,000	$10	50cQ	9- 1-31	19	15	22½	13	20⅞	8⅝
42	25	No sales ..	..	..	..	Southwest Pennsylvania Pipe Line		$1,750,000	$50	$1Q	12-31-31	102	70	70	60	64	32
38½	13½	18,100	16¾	15½	15¼	Standard Oil of Indiana		$348,175,069	$25	25cQ	12-15-31	95⅞	70⅞	63	45	59⅞	30
23⅝	12⅛	2,000	14	13⅜	13¾	Standard Oil of Kentucky		$25,654,516	$10	40cQ	12-31-31	179¾	122¼	46⅞	29	40½	18⅝
36½	16	400	18	15¾	..	Standard Oil of Nebraska		$4,649,225	$25	50cQ	12-21-31	54⅞	39⅞	50¼	40	48⅞	34⅝
62½	23	50	28	28	25¼	Standard Oil of Ohio		$14,000,000	$25	62½cQ	1- 2-32	134	71	129	60	108½	43¼
4½	1	No sales ..	..	..	..	Swan-Finch Co.	(sh)	34,480	$25	....	1-15-29	23¼	16	18	10	10	4

*Ex-dividend. †Unit of trading less than 100 shares. ‡Plus 50 cents extra.

INDEPENDENT OILS ON NEW YORK CURB

Quotations Compiled by Francis, Bro. & Co., Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.
(Complete record week ending Jan. 23)

1931 High	1931 Low	Week ended Jan. 23 Sales	Week ended Jan. 23 High	Week ended Jan. 23 Low	Close Jan.27	Stocks—		Outstanding capital	Par value	Div. rate	Payable or last paid	1928 High	1928 Low	1929 High	1929 Low	1930 High	1930 Low
1¾	¼	200	⅜	⅜	⅜	American Maracaibo	(sh)	700,000	N.P.	....	.....	9½	3⅛	8⅝	1⅛	4½	½
16⅞	6¼	700	8⅞	8¾	..	British American Oil Corp.		1,311,321	N.P.	20cQ	10- 1-31	55	32¾	62	7⅞	23	13⅜
2⅜	¼	1,300	½	½	⅝	Carib Syndicate		$131,250	25c	....	.....	4½	3⅞	4⅞	1	2¾	⅝
20¾	5	48,400	6⅜	5⅞	6	Cities Service	(sh)	24,290,359	N.P.	30cA§	2- 1-32	90⅞	54	68⅛	20	44¼	13
84¾	35⅜	500	51⅝	50⅛	..	Cities Service pfd.	(sh)	1,500,000	N.P.	50cM	2- 1-32	103¼	94½	98¾	84	93⅞	78¼
½	1/16	No sales	..	..	..	Colombia Syndicate		$2,000,000	$1	....	.....	3¼	.76	2	½	¾	⅛
2¾	1	No sales	..	..	..	Consolidated Royal		$5,527,875	$10	5cQ	10-25-31	8⅞	6¼	11⅛	2½	5⅞	2
⅝	⅛	100	½	½	⅜	Crown Central		.....	....	....	.....	..	..	..	..	..	..
5	1¾	100	1⅜	1¾	..	Darby Petroleum (new)		1,019,392	N.P.	....	10-15-30	33½	3¼	26	6½	21¾	4¼
6	1½	200	2⅛	2⅛	..	Derby Oil & Refining	(sh)	500,000	N.P.	....	.....	2¼	1	11	2	11	2
40⅛	25	No sales	..	..	..	Derby Oil & Refining pfd.		48,500	N.P.	....	.....	21⅛	7½	44	20¾	60	30
75½	25⅜	3,900	30¼	28¾	28¾	Gulf Oil Corp.	(sh)	4,504,921	$25	....	10- 1-31	165	101⅛	209	115	166⅞	58½
⅝	⅛	500	⅛	⅛	..	Intercontinental Petroleum		$5,682,000	$5	....	.....	3⅜	1	2⅞	⅜	1¾	⅜
1⅞	¼	200	½	½	..	Kirby Petroleum	(sh)	750,000	N.P.	....	.....	3	1¼	3⅝	1¼	3	⅞
1½	¼	No sales	..	..	1/16	Leonard Oil & Development		$50,000,000	$25	....	.....	9⅜	5⅛	6⅛	1	4¾	½
6¾	1½	No sales	..	..	..	Lion Oil & Refining	(sh)	250,000	N.P.	....	10-27-30	43⅞	20	38⅞	18	29	4⅞
25	5½	1,900	8⅞	8½	8½	Lone Star Gas	(sh)	5,000,000	N.P.	22cQ	12-31-31	69⅛	48½	67⅞	28	55⅞	19⅝
½	1/16	2,100	⅛	1/16	1/16	Magdalena Syndicate	(sh)	850,000	$1	....	.....	1⅞	½	1¼	½	½	⅛
5	1⅞	200	3¾	3¾	4	Margay Oil Corp.		160,000	N.P.	....	7-10-30	48½	32	38½	14	16	3
4⅞	1½	No sales	..	..	..	Mexico-Ohio Oil Co.		500,000	N.P.	....	.....	8	2¾	6⅜	2¼	7½	1¾
½	⅛	No sales	..	..	..	Mountain & Gulf		$4,000,000	$1	....	4-15-31	1¾	.76	1½	½	¾	⅜
5⅜	2⅜	300	2¾	2½	..	Mountain Producers		$1,682,182	$10	20cQ	1- 2-32	28⅞	19½	22⅞	7	12⅛	3⅜
1½	½	900	½	½	..	New Bradford Oil		$1,095,291	$5	....	4-15-31	5⅝	4¼	5	2½	3½	1⅛
3	¾	100	⅞	⅞	..	New Mexico and Arizona		$1,000,000	$1	....	.....	11⅞	7⅛	9⅜	2¼	7¼	1½
3¼	⅝	No sales	..	..	..	North Central Texas	(sh)	400,000	N.P.	....	9- 2-30	14¼	8½	18½	6⅛	11¼	2⅛
½	1/16	300	⅛	⅛	..	Pandem	(sh)	489,875	N.P.	....	.....	6	2⅛	3½	½	2½	¼
2	⅝	No sales	..	..	..	Pantapec Oil	(sh)	1,506,000	N.P.	....	.....	15⅝	8½	10½	1⅞	4⅜	⅞
3⅛	¼	200	½	½	..	Reiter-Foster	(sh)	388,584	N.P.	....	12- 2-29	12⅞	4⅛	8½	1⅛	5⅜	1
3	¾	No sales	..	..	..	Ryan Consolidated	(sh)	500,000	N.P.	....	.....	12	4⅛	11	2	8⅝	2
1⅜	⅛	No sales	..	..	..	Salt Creek Consolidated	(sh)	1,286,300	$10	....	4- 1-31	7¼	5½	5⅞	1⅞	2½	½
7¾	2¾	100	3½	3½	..	Salt Creek Producers	(sh)	1,496,859	$10	25c	2- 1-32	35	23⅛	25⅞	9	15¼	5¼
5¼	¼	1,000	½	⅜	..	Sunray Oil	(sh)	1,163,185	$5	....	4-15-31	..	..	12	5⅝	10	2
1⅞	¼	400	⅜	⅜	..	Venezuelan Petroleum	(sh)	755,090	$5	....	2-15-30	9⅛	4⅜	6½	1⅜	4½	⅜
3½	1⅛	600	2	1⅞	..	Woodley Petroleum		$500,000	$1	....	3-31-29	8¼	4⅞	9½	2	5	½
2¼	¼	100	⅜	⅜	..	Y Oil & Gas		100,000	N.P.	....	.....	8⅜	2⅛	2⅞	½	2½	⅝

*Ex-dividend. †Unit of trading less than 100 shares. ‡Payable monthly and mo nthly stock dividend of one-half per cent. §Paid in lieu of regular cash dividend of 2 per cent.

TRANSACTIONS IN OIL SHARES ON NEW YORK STOCK EXCHANGE

Quotations Compiled by Francis, Bro. & Co., Members of the New York Stock Exchange and Associate Members of New York Curb, Kennedy Building, Tulsa, Okla.
(Complete record week ending Jan. 23)

1931 High	1931 Low	Week ended Jan. 23 Sales	Week ended Jan. 23 High	Week ended Jan. 23 Low	Close Jan.27	Stocks—		Outstanding cap.tal	Par value	Div. rate	Payable or last paid	1928 High	1928 Low	1929 High	1929 Low	1930 High	1930 Low
23	11¼	300	13⅝	12¾	..	Amerada Corp.	(sh)	922,075	N.P.	50cQ	1-30-32	43⅞	27⅛	42⅝	17½	31½	16½
12⅜	1¼	500	2⅜	2⅛	2	American Republics Corp.	(sh)	209,180	N.P.	....	12-31-30	85	51⅛	64¾	12½	37	5⅛
31	8¾	10	8¾	8¾	..	Associated Oil		$57,260,300	$25	....	6-30-31	53⅜	37½	47¼	34½	51	30
23⅝	8⅝	5,300	10¼	9⅝	9⅝	Atlantic Refining		$66,763,775	$25	25cQ	12-15-31	66⅜	50	77⅞	30	51⅜	16⅝
14½	4	4,200	5⅜	4⅝	4¾	Barnsdall Corp. A		$56,546,600	$25	....	5-11-31	54	20	49⅛	20	34	8⅝
12	5	8,600	6⅝	6¼	6⅛	Continental Oil of Delaware	(sh)	4,741,554	N.P.	....	12-15-27	..	..	47⅞	18	30½	7¾
47	9⅝	3,600	15½	13⅞	14¼	General Asphalt	(sh)	413,333	N.P.	50cQ	12-15-31	94⅞	68	94¾	42¼	71½	22⅜
68½	15⅜	4,700	21¾	19	19	Houston Oil		$24,968,600	$100	....	10-17-30	167	79	109	26	116⅞	29¼
4⅝	1⅛	500	1⅝	1¼	1¼	Indian Refining		$12,564,070	$10	....	10- 1-30	39⅝	9	53	13⅛	17	2
4½	1	100	1	1	..	Louisiana Oil Refining	(sh)	1,190,063	N.P.	....	.....	19¾	9⅜	18	7	12	3½
3¾	½	100	¾	¾	¾	Maracaibo Oil	(sh)	330,000	N.P.	....	.....	25½	12½	18½	5⅛	10⅜	1⅜
16¾	5	2,900	6⅛	5½	5½	Mid-Continent Petroleum	(sh)	1,857,912	N.P.	....	2-16-31	44½	25⅛	39⅞	22⅛	32	11
19½	5⅛	6,300	6¼	5¾	5½	Ohio Oil	(sh)	6,648,052	N.P.	....	3-14-31	84	58½	79⅞	64¼	32	16
35⅛	20	No sales	..	..	..	Pan American P. & T.		$50,084,700	$50	40c	1-20-31	50⅞	38¼	69	40½	46½	42
36½	18	100	19	19	..	Pan American P. & T. "B"		$121,110,650	$50	40c	1-20-31	59⅞	37¾	69¼	40½	67¼	30
4¼	⅝	1,000	¾	½	..	Panhandle P. & R.	(sh)	199,370	N.P.	....	.....	21¾	11½	15¼	3	12¾	1¾
20⅛	5	90	8	5¾	..	Panhandle P. & R. pfd.		$2,564,400	$100	....	.....	108	70	76	47½	20	47½
16⅝	4	8,106	5¼	4½	4¾	Phillips Petroleum	(sh)	2,593,075	N.P.	....	1- 2-31	53⅞	35¼	47	24¼	44⅝	11½
1½	¼	1,100	½	⅜	⅜	Pierce Oil Corp.		$29,622,831	$25	....	.....	5¼	½	3⅜	1	2½	½
3⅛	½	1,100	1	⅞	⅞	Pierce Petroleum	(sh)	2,500,000	N.P.	....	2-16-31	7	3½	5⅞	½	7⅛	1⅜
20⅜	4⅛	1,500	5⅞	5⅛	5¼	Prairie Oil & Gas		$60,848,000	$25	....	3-31-31	68	46	65⅝	40½	54	11¼
26½	5⅞	7,700	7⅞	7	7	Prairie Pipe Line		$101,250,000	$25	....	6-30-31	280	172	65	45	60	16⅝
6	1	4,600	1½	1	..	Producers & Refiners		$37,438,950	$50	....	9-15-23	29⅞	16	25⅞	4	11⅞	1
16	3	360	8	6¼	..	Producers & Refiners pfd.		$2,845,350	$50	....	5- 4-25	49⅝	41	46¾	25½	40	11½
11⅞	3¼	2,400	5	4⅜	4½	Pure Oil		$75,959,250	$25	....	9- 1-30	31⅝	19	30¾	20	27¼	7⅝
6⅜	⅜	800	¾	⅝	⅝	Richfield Oil (new)		$52,410,875	N.P.	....	.....	56	23	49⅝	20	9⅜	4⅛
10¼	1¼	900	2¼	2⅛	2⅛	Rio Grande Oil	(sh)	1,236,270	N.P.	....	7-25-30	37½	32	42½	15	25¾	5
42⅝	13	6,800	16⅝	15¼	15⅜	Royal Dutch N. Y.	(sh)	611,303	....	$0.938	8- 4-31	64	44⅝	64	43⅛	56½	36⅞
20¾	5½	6,500	8⅛	7½	7⅛	Seaboard Oil of Delaware	(sh)	1,244,383	N.P.	....	10- 1-24	72	4⅝	59⅜	8¼	37	9¾
34	5	60	12½	12½	..	Shell Transport & Trading Co.		£23,985,000	£1	$0.966	7- 6-31	47⅞	41⅜	51½	40⅝	48⅜	26
10¼	2½	5,600	3¾	3¼	3¼	Shell Union Oil	(sh)	13,066,497	N.P.	....	6-30-30	39¼	23¼	31⅜	19	25½	5¼
11	3½	2,200	5	4⅝	4¾	Simms Petroleum		$8,353,620	$20	....	9-15-30	27½	18⅛	40⅛	15	37	5⅝
15⅞	4⅛	19,700	6	5¼	5¼	Sinclair Consolidated	(sh)	5,500,000	N.P.	....	4-15-31	46¾	17⅜	45	21	32	9¾
103	64	500	88	84	..	Sinclair Consolidated pfd.		$16,025,250	$100	$2Q	‡2-15-32	110	102½	111	103	112¼	86
12⅞	2	500	3¼	3	2⅞	Skelly Oil		$27,441,250	$25	....	12-15-30	42⅝	25	40½	28	12	10⅛
21	8⅜	21,600	10¼	9½	9⅞	Socony-Vacuum	(sh)	31,923,072	$25	25c	12-15-31	..	..	..	..	..	..
51¾	23⅛	16,800	26⅛	24	23⅜	Standard of California	(sh)	12,594,098	N.P.	62½cQ	12-15-31	80	63	81⅞	51½	75	42½
19	7¾	3,300	12⅜	9¾	10¼	Standard of Kansas		$8,000,000	$25	....	3-16-31	37¾	15	33¾	18	49	14⅜
52½	26	36,200	29½	27¼	26¼	Standard Oil of New Jersey		$634,999,200	$25	25cQ§	12-15-31	59⅜	37¾	83	49	84⅞	32½
45¼	26¾	800	30	28⅛	28⅛	Sun Oil	(sh)	1,416,869	N.P.	25cQ	12-15-31	77	31½	68⅜	55	70	39
1¾	¼	500	⅝	½	½	Superior Oil Corp.	(sh)	766,979	N.P.	....	12-20-30	..	..	24	5¼	9⅜	¾
36¼	9⅞	29,800	13	11⅞	11½	The Texas Corporation		$246,204,900	$25	50cQ	10- 1-31	74¾	50	71⅞	50	60½	28¼
6½	1⅞	3,400	2¼	2	2	Texas Pacific Coal & Oil Co.		$9,304,890	$10	....	12-31-29	26⅝	12⅛	23⅞	9½	14½	4
18	9⅞	No sales	..	..	..	Tide Water Oil	(sh)	2,191,759	N.P.	....	6-30-31	41½	19⅝	40	14	31	13
83	30	100	34½	34½	35	Tide Water Oil pfd.	(sh)	19,947,000	N.P.	$1.25Q	1-16-32	100⅛	86	97½	85⅛	94⅞	71
9	2⅛	5,600	3⅛	2⅞	2⅞	Tide Water Associated	(sh)	5,560,424	N.P.	....	2-16-31	25	14¾	23½	10	17¾	5⅞
68	20½	1,400	26	25	24	Tide Water Associated pfd.		$73,284,500	....	$1.50Q	10- 1-31	..	..	90⅞	74⅛	89¾	55
26⅝	11	2,000	13⅞	12½	12⅛	Union Oil of California		$104,342,375	$25	35cQ	2-10-32	58	42⅜	57	42⅛	50	10⅛
25⅛	16	800	17	16	15	Union Tank Car	(sh)	1,254,048	$100	40cQ	12- 1-31	128⅛	110	163¾	121⅞	38½	23
7⅝	⅞	300	1½	1¼	..	Warner-Quinlan	(sh)	632,948	N.P.	....	7- 1-30	44⅞	26	42⅞	15	27	4¼
9⅜	2¾	1,800	4	3½	..	Wilcox Oil & Gas	(sh)	428,907	N.P.	....	5-10-28	..	..	29¾	12⅞	21	6½

*Ex-dividend. †Unit of trading less than 100 shares. ‡Plus extra dividend of 25 cents.
In comparing highs and lows for the several years in the three tables, it will be necessary to take into consideration cases where there have been stock split-ups.

COMPANIES DISTRIBUTE THIRD GRADE GASOLINE

(Continued from Page 75)

third pumps in stations having only two units.

Limited to California

It is the present intention of Pacific Coast marketers to limit the sale of third-grade gasoline to California, if this can be done, but in the event that tentative plans prove impracticable, the third structure will be extended to all Pacific Coast points. Opinion is somewhat divided as to the effect which the third structure gasoline will exert on the Pacific Coast, especially in view of the gasoline price war which has been brewing for the past several weeks. Independent refiners are frank to admit that they anticipate a reduction in gallonage of 10 or 15 per cent.

Approximately 500 service station operators associated with the Southern California Petroleum Dealers' Association held a meeting in Los Angeles during the early part of the past week in an effort to prevent a repetition of the disastrous gasoline price war which visited the Pacific Coast during the spring and summer of 1931. Stanley Sayer, president of the association, recommended that independent service station operators carry two grades of gasoline. Under this plan, the first grade would be marketed 2 cents per gallon below the first grade of major companies, while the second grade would be sold unbranded at a lower figure. The unbranded gasoline under this policy would compete with the third structure gasoline of major companies. In view of the fact that all gasoline sold must come up to state specifications, independent refiners will find it necessary to keep the octane rating on their first grade as high as possible consistent with the refining facilities at their disposal, especially if there is to be any marked difference between the first and second grades.

The following table gives the gasoline gallonage of the major distributors in California for December and November (data in thousands of gallons):

	Dec.	Nov.
Standard	22,285	21,435
Shell	12,921	13,082
Associated	9,439	11,157
Union	8,064	8,385
General Petroleum	7,966	8,129
Richfield	8,011	7,342
Texas	3,813	3,576
Rio Grande	3,185	4,483
Wilshire	5,080	5,752

SURVEY SHOWS WASTE IN MARKET FACILITIES

(Continued from Page 69)

essary stations raises the total to more than $455,000,000, without including depreciation of unnecessary bulk plants and without allowing for any return on more than $1,000,000,000 of wasted capital.

"The chief blame for this condition should be placed on the abnormal competitive 'system' fostered by archaic laws. A solution is possible, and I believe the industry will find it. If not, the job will be undertaken by others, and the measures adopted will not be to the industry's liking."

In determining whether a service station was warranted, Mr. Winship said, many factors were taken into account, but chief consideration was given to the number of motor vehicles in the areas normally served.

"Few will dispute the statement," he said, "that no large or important section of the United States has too few service stations. This fact suggested a method of gauging, in a comparative sense at least, the extent of overdevelopment. By accepting as 'normal' the conditions in areas showing least duplication of facilities, we have a yardstick which can be applied to the rest of the country. Certainly, this method will not exaggerate the gravity of the present situation.

"Analysis of conditions in every town of the United States having a population of 1,000 or more, and in many smaller villages, convinced me that in communities having fewer than 400 motor vehicles a service station is seldom warranted, because in such communities the car owners can be quite adequately and much more economically served by their local garages. I was convinced also that in larger communities the number of stations should not exceed one to every 400 vehicles.

"An objection naturally raised is that this takes no account of through traffic or transient trade. Perhaps the best answer to this is to cite the fact that few places have a larger proportion of through traffic than Jersey City and Newark, each of which is a natural gateway for traffic flowing to and from New York.

"The danger of building service stations to catch the transient trade, with little or no thought to the amount of local support which can be obtained, has been demonstrated repeatedly. The sales manager who fails to recognize that fact is doomed."

In calculating the total investment in unnecessary service stations Mr. Winship used figures considerably lower than the average calculated in the United States department of survey of the "Petroleum Industry of the Gulf Southwest," published in 1931.

Mr. Winship's highest appraisal of service stations in towns of 100,000 population was $12,000 and his appraisal of stations in towns of less than 50,000 was $8,000. His highest average was $30,000 for stations in cities of 1,000,000 or more population. This figure included $19,000 for land values, $9,000 for buildings and $2,000 for equipment. Contrasting with this, the rural stations were carried at $800 for land, $1,200 for buildings and $1,000 for equipment.

WELDED OIL LINE IS CONSTRUCTED IN MEXICO

(Continued from Page 13)

it impossible to transport material or treat line.

Equipment Used

Martin & Co. had in continuous service in the construction of this line: Seven caterpillar 60s, three caterpillar 30s, one Monarch 35, four 10-ton Holt tractors, four Model W-1 International Harvester trucks with 5-ton highway trailers, four Model W-2 International 1½-ton trucks, one 1½-ton Chevrolet truck, 150 mules complete with wagons, five Ford coupe automobiles, four Chevrolet tool pushers' automobiles and one Studebaker tool pusher automobile.

In carrying out the welding of the line the contractors used 25-pound, 50-pound and 100-pound Oxweld and Smithweld acetylene generators with respective equipment of both manufacturers. The large generators were maintained on 4-wheel wagons and moved along the right of way by small tractors or mule teams. All river crossings were given a water test of 1,000 pounds before line was pulled into river and welded into place. On each weld of river crossing there was placed a supporting collar over the welded joint. The collar was 8 inches wide and welded on two places to the pipe. Over this supporting collar was placed a 1,400-pound river clamp for further support and weight to keep line in place at bottom of river. As a safeguard against river crossings washing out, an extra crossing was welded and placed on skids at each river crossing, ready to be pulled into place in case of washouts. Where line crossed under railroads or roads, same was placed within 12-inch pipe, and where line crossed over deep creeks or small rivers, the line was suspended with 1¼-inch cable ways.

Martin & Co. used all Mexican labor in the construction of this line and especially Mexican welders and foremen supervised by foreign superintendents. The welders were trained in the contractors' shops at Tampico and Mexico City before they were placed on the firing line. This was one of the first attempts in Mexico to use all Mexican welders in the construction of a pipe line, and Martin & Co. considered its results most successful. The Mexican foremen, welders and day laborers went through very trying conditions in carrying out their work due to the continuous rains, and the contractors have the greatest praise for the men as they were continually working and welding in the rain while completing the section between kilometer 0 and kilometer 89. The personnel of Martin & Co. who were responsible for the successful completion of this project are: W. P. Breeding, general superintendent, assisted by H. J. McCoy, E. R. Silliman and F. Larc; W. M. Dark and E. A. Rice, general transportation superintendents; A. W. Naylor, chief engineer, assisted by Harold Darnell and F. Mitchell. These men were generally supervised by S. D. Baker, vice president and general manager for Martin & Co., and James F. Martin, president of the company.

As camp equipment Martin & Co. used tents with flies exclusively due to the difficult transportation problems, as it was often necessary to move entire camps by pack mules on account of road conditions. While working in the high altitude, the tents were floored and walled 4 feet on each side.

Telephone and Refinery

The Aguila Co. constructed a complete telephone system parallel to the pipe line between Palma Sola and its refinery at Mexico City, with telephone connections in each station, the main switchboard being located at Catalina, Station No. 5. Between Station No. 1, kilometer 0, and Station No. 7, kilometer 99+883, the Aguila Co. constructed a high tension electric cable line to furnish current for the seven stations. Electric current is being furnished for this project by the Mexican Light & Power Co. from its plant at Necaxa, State of Puebla.

The refinery at Atzcapotzalco was constructed by the Aguila Co. with R. W. F. Newton as general superintendent, assisted by T. D. Dinsmoor. The refinery was completed in record time and will start operating about February 1. The tank storage and living quarters within the refinery were constructed by Martin & Co., the following storage being available at the present time within the refinery: Four 55,000-bbl. tanks; three 20,000-bbl. tanks; two 10,000-bbl. tanks; three 5,000-bbl. tanks; and five 3,000-bbl. tanks.

The refinery is considered one of the most complete units of its kind constructed in this country and is a credit to its builders. In addition to the refinery proper, the sales division of the Aguila Co. is also located at Atzcapotzalco refinery site, from which the local trade of the federal district draw their refined products. The present capacity of the refinery is 12,000 bbls. daily, but is so constructed that additional units may be added when conditions demand. The Aguila Co. is making the refinery one of the garden spots of Mexico, and although it is comparatively new, the entire ground is covered with beautiful grass spotted throughout with flowers and trees.

Pump Station Construction

Martin & Co. constructed seven pump stations along the right of way, which are located as follows:

	Kilometers	Meters above sea level
Station No. 1	0	92
Station No. 2	45+358	468
Station No. 3	50+696	898
Station No. 4	64+421	1,318
Station No. 5	78+673	1,748
Station No. 6	89+482	2,182
Station No. 7	99+883	2,491

From the profile of the line it can be readily seen that between kilometer 0, Station No. 1, and Station No. 2, there is a difference in elevation of 376 meters. Between Station No. 2 and Station No. 3, 430 meters. Between Stations 3 and 4, 420 meters. Between Stations 4 and 5, 430 meters. Between Stations 5 and 6, 434 meters. Between Stations 6 and 7, 309 meters. All stations are equipped with two Worthington-Simpson double duplex cast steel 5"x18" pumps directly connected to 100-horsepower Metropolitan Vickers electric motors, which were manufactured in England. Pumps are designed for 600 pounds working pressure to the square inch with maximum pressure of 800 pounds; capacity of each unit 7,500 bbls. daily.

At Station No. 1, Palma Sola, the contractors erected one 20,000-bbl. and one 55,000-bbl. steel storage tank. At Station No. 2, one 1,000-bbl. surge tank with floating deck and one 2,200-bbl. storage tank. At Station Nos. 3, 4 and 5, there was erected one 1,000-bbl. surge tank with floating deck and one 5,400-bbl. storage tank. At Station No. 6, one 1,000-bbl. surge tank with floating deck and one 20,000-bbl. storage tank. At Station No. 7, one 1,000-bbl. surge tank with floating deck. A high pressure 10-inch check valve is installed at each station with Foxboro meters, as the Aguila Co. will not take any gauges at stations along the line.

Stone and "adobe" living quarters were constructed by the contractors at each station to house the station employes. Station No. 5, located at Catalina, will be the main headquarters for the pipe line superintendent and electrical superintendent operating the line, and this station will be one of the most beautiful spots along the line, as the Aguila has gone to considerable expense since the contractors have turned the station over, to beautify this station site. The station buildings proper were designed and fabricated in England of steel construction covered with asbestos. Stations 2, 3, 4 and 5 are beautifully situated on top of mountain peaks which overlook valleys from 300 to 500 meters below the station sites. Around these stations there are pine woods and it is one of the most picturesque parts of Mexico. This region is inhabited by Indian tribes who farm the entire mountain sides, making the country even more beautiful as the entire mountains are practically covered the year around with beans, pepper, sugar cane, coffee plants and pineapple.

Transporting Station Material

The contractors encountered some very difficult problems in transporting the station material, especially the heavy pumps and motors. Where the stations were located on mountain peaks, it was necessary to move the material to the closest point possible by tractor and drag the equipment into place with winch tractors. Due to the heavy rainfall of 1931, Martin & Co. was forced to pack by mule all cement, lumber, sand, structural steel and other material that could be separated into pieces weighing not over 50 kilos each.

This project is being carried through, including pump stations and refinery at a cost to the Aguila Co. of not less than 10,000,000 pesos and will give it an outlet for its production from its southern district in the States of Vera Cruz, Tamaulipas and Puebla.

Summary

1. Length of line: Main line, 223+615 kilometers; size of pipe, 10 inch: branches, none. Work on line was started September 20, 1930, and finished January 26, 1932.

2. Superintendents in charge of construction were: W. P. Breeding, general construction superintendent, assisted by H. J. McCoy, E. R. Silliman and Frank Larc; William M. Dark and E. A. Rice, general transportation superintendents, assisted by J. A. Owens; A. W. Naylor, chief engineer, assisted by Harold Darnell and F. Mitchell.

3. If the line was built in sections, what were sections? (1) Kilometers 89+482 to kilometer 223+615; (2) kilometer 45 to kilometer 89+482; (3) kilometer 0 to kilometer 45; capacity of line, maximum 15,000 bbls., and operating 8,000 bbls.

4. Line will furnish crude to refineries at Atzcapotzalco with capacity of 12,000 bbls. Was a telegraph or telephone system constructed along the line? Yes, telephone and high tension cable line was constructed parallel to pipe line.

5. What type pipe was used? Ten-inch, 41-pound, second-hand line pipe of various manufacture.

6. Was acetylene or electric welding employed? Acetylene welding, using Smithweld and Oxweld generators.

7. Was any section of line coated? Entire line thoroughly cleaned, given one coat of cold paint, Permadura No. 2, Aguila product, and one coat of blown

asphalt R-2, Aguila product. Number of kilometers treated, 223+615.

8. Was most of the line ditched by machine? Entire line was ditched by hand labor. Was any blasting done? Between kilometer 13 and 27 the entire section was blasted to open ditch. Between kilometer 50 and kilometer 68, the entire section was blasted. Between the section kilometer 89 and 223+615, at least 50 per cent of ditch was blasted. Size of ditch (a) Depth, 60 centimeters; (b) width, 30 centimeters.

9. River crossings: Name of rivers, location and number of lines and size: Cazones River, K. 8½, 2 lines, size 10-inch; K. 27+061, 2 lines, size 10-inch; K. 38+479, 2 lines, size 10-inch; K. 39+794, 2 lines, size 10-inch; and K. 40+650, 2 lines, size 10-inch.

10. Weight of river clamps, 1,400 pounds.

11. Number of men employed: Engineers, 3; superintendents, 7; laborers, 1,200.

12. Cost of line (total approximate) $2,100,000 pesos.

13. Pump stations were erected at: K. 0, Station No. 1; K. 45+358, Station No. 2; K. 50+696, Station No. 3; K. 64+421, Station No. 4; K. 78+673, Station No. 5; K. 89+482, Station No. 6; K. 99+883, Station No. 7. Average distance between stations, 14+269 kilometers (8.86 miles). Will additional stations be added in the future? If necessary.

14. Storage erected in connection with line: Number of tanks at station and capacity: 2 tanks at Station No. 1, capacity 20,000 and 55,000 bbls.; 2 at Station No. 2, capacity 1,000 and 2,000 bbls.; 2 at Station No. 3, capacity 1,000 and 5,400 bbls.; 2 at Station No. 4, capacity 1,000 and 5,400 bbls.; 2 at Station No. 5, capacity 1,000 and 5,400 bbls.; 2 at Station No. 6, capacity 1,000 and 20,000 bbls.; and 1 at Station No. 7, capacity 1,000 bbls.

15. Line was tested in sections of 30 kilometers with 800 pounds water pressure.

16. Contractors for stringing pipe, welding and laying and for pump stations: Ingenieros y Contratistas "Martin," S. A. constructed and carried through the entire contract of construction of the line and stations, also the larger portion of the refinery at Atzcapotzalco.

Equipment Used on Line

Air compressors, Ingersoll-Rand 9x8, portable. Ditchers and backfillers, none. Excavators and pipe cranes, caterpillar tractors with winch. Line pipe, 41-pound second-hand of various manufacture. Pipe cleaning machines, none. Protective coating, cold paint and blown asphalt. Explosives, dynamite and black powder manufactured in Mexico. River clamps, various manufacturers, 1,400-pound. Diesel engines, none. Pumps, Worthington-Simpson. Other pumping station equipment, none. Valves, various makes. Telephone or telegraph wire, copper and aluminum wire. Welding machines, Smith-weld generators and Oxweld generators, Lincoln electric welding generators used for tacking. Welding wire, manufactured by Cia. Consolidated Rolling Mills & Equipment Co., Mexico, D. F. Measuring instruments at pump stations, Foxboro meter. Tractors, Monarch 35, caterpillars 60s and 30s. Pipe trucks, International 5-ton Model W-1 with highway 3-ton trailers.

TAX ON IMPORTS BEING ARGUED AT WASHINGTON

(Continued from Page 12)

revenue by the proposed tax because as proposed it was not large enough to keep oil out of the country.

"There can be no complete recovery from this economic depression we are now in unless this industry may be able to live and come back to normal conditions," he declared.

Mr. Treadway: "Are you arguing that with one-tenth of the whole production not being of domestic production the earning power of this country cannot get back to normal?"

"I think 10 per cent or 2 per cent will destroy the economic condition of the entire body," Mr. Franklin replied.

Inquiry From Illinois

Representative Carl Richard Chindblom (Rep., Ill.), a Chicago lawyer, remarked that what the witness wanted was to tax all the crude oil and all the gasoline anyone uses in the United States.

"I understand," responded Mr. Franklin, "that the oil industry is the most heavily taxed industry in the United States and a tax on foreign oil would bring $100,000,000 to the treasury of the United States."

Again replying to Mr. Chindblom, Mr. Franklin said he did not care whether the tax would be levied as a tariff or as a revenue measure.

"The oil industry should be put in a condition to live and meet the competition of foreign oil," he added.

Re-exportations

Representative Willis Chatman Hawley (Rep., Ore.), chairman of the Ways and Means Committee of the House in the last Congress and now ranking Republican member, interrogated the witness concerning crude oil imported for manufacture and re-exported, Mr. Franklin explaining that he had no intention to oppose that procedure.

"When it is imported and re-exported it would not be taxed," he said.

Asked how he would tax paraffin, he said he would not consider a tax of a cent a pound would be out of the way. Again referring to this "revenue tariff," he said if he were asking for an import tariff he would ask for a tax of at least $1 a barrel.

"I think," he added, "a tax of $1 a barrel might have the effect of lessening the imports and would not operate in the same way as a revenue measure."

The oil men, he said, had done their part in stabilizing the industry but their efforts had been rendered futile because of imports of untaxed foreign oil. He explained the work of proration in the four principal oil states.

Asked about the attitude of foreign countries toward the taxation of petroleum and products, he said Great Britain has an import tax of 16 cents a gallon on gasoline.

"Every nation of Europe," he continued, "has a tariff on oil."

Mr. Collier wanted to know about oil production in Europe and the witness referred to the several countries that have limited production. Their tariffs, he thought, from the limited amount of their production, would be to raise revenue.

East Texas

Of the East Texas Field, he said, with its 3,800 wells in an area 40 miles long and 8 miles wide, the greatest oil field of all time, was 75 per cent owned by "these major groups" of oil companies.

Much curiosity was shown by the committee concerning the way the tax on crude and fuel oil would operate, the witness explaining that 2 cents a gallon on crude and 4 cents on gasoline would allow it to come in and at the same time give the domestic producer a better opportunity to compete with the imported oil.

There was curiosity about the amount of capital invested by the big oil companies.

"A very small amount was put in these companies," he said, "and the present capitalization is very largely made up of stock dividends."

He did not have figures to give accurate statements on that subject, but said he could procure them.

Maryland Interested

Questions asked the witness concerned the way rehabilitation of the oil industry would help other lines of business, and Representative David John Lewis (Dem., Md.), wanted to know what general prosperity would help to get tenants for his apartment house which is now half empty and doesn't yield enough income to pay its taxes.

Mr. Franklin insisted that with the third largest industry on its back, though normally employing 2,000,000 persons, and now threatened with destruction, the country could not recover prosperity. With the consumption of gasoline up to the level it has been for several years, he said, there should have been prosperity.

Asked whether the big companies explored for oil, Mr. Franklin said they did not. They waited for the little fellows to find the oil and they would buy the oil.

"Sometimes," he added, "by methods that in other industries would entitle them to terms in the penitentiary."

Explaining this statement, he said after the oil is discovered the pipe lines come in and begin taking the production and after a while begin cutting the price until the little fellow is not able to pay his debts and then the property is acquired by the people owning the pipe lines.

"That," he said, "is well known in the industry and it has been practiced throughout the United States."

That condition, he said, had been brought about largely by imported oil "destroying the domestic industry and making it impossible for producers and refiners in the Mid-Continent Field to pay their bills, necessitating foreclosures and sheriffs' sales."

Exports Exceed Imports

Replying to a question by Mr. Lewis, Mr. Franklin said it had been true throughout the history of the oil industry in the United States that our exports exceed our imports because the petroleum industry was developed in the United States.

"But," he added, "our export market has dwindled constantly for the last three years and I have it from the sales manager of the Standard Oil Co. of New Jersey that we are doomed to lose our foreign market. The export trade of 1931 totaled 116,477,000 bbls., valued at $270,455,000, which was a shrinkage of 20.2 per cent in barrels and 45.3 per cent in value below the previous year of 1930, and that came about largely because our export companies had to meet the competition of Russia and other oil-producing countries."

He said the oil produced in the United States, was from highly paid labor, drillers getting from $14 to $18 a day, derrick men $7.50 and the rest of the crew $6, with common labor $4.50 to $5 a day.

At this point Mr. Lewis interrupted to say he did not want a speech.

Mr. Franklin reminded the committee that it was not imported oil on the Atlantic Coast that upheld exports, as the largest portion of export oil was from the Pacific Coast and there are, he said, no imports of oil on that coast.

He declared that the farmers of Oklahoma, Kansas, Texas and California and other states owned a large percentage of the oil land and the loss of revenue from that land had played no small part in building up agricultural interests in the oil states.

Much effort, he said, had been expended to help the farmer, but he added:

"What I am suggesting now will do as much to help the farmer as anything that can be done."

Mr. Franklin Offers Figures

Mr. Franklin presented figures on the importation of crude petroleum fuel oil, gasoline and lubricating oil for 1930 to illustrate how the government might receive revenue amounting to $102,571,198.74 cents with the imposition of the rates proposed by him.

Crude petroleum, 62,129,419 bbls., or 2,609,435,598 gallons at 2 cents per gallon, would produce $52,188,711.96.

Fuel oil, 26,080,383 bbls. or 1,095,376,086 gallons at 2 cents a gallon, would produce $21,907,521.72.

Gasoline, 16,926,800 bbls., or 710,925,-

CALIFORNIA CRUDE OIL PRICES

(Continued from Page 73)

ASSOCIATED OIL CO. PRICES

Associated Oil Co. prices effective June 20 are as follows:

Ventura Avenue, 22 gravity, 58 cents, with 2 cents added for each degree upward to and including 30 gravity, which is 74 cents.

Kettleman Hills, 30 gravity and above, 66 cents.

Potrero, 24 gravity, 69 cents, with 2 cents added for each degree upward to 34 gravity which is 69 cents.

General Petroleum Co. in Kettleman Hills, effective January 1, 1932: 32-33.9 degrees, 66 cents; 34-34.9 degrees, 68 cents; 35-35.9 degrees, 70 cents; 36-36.9 degrees, 72 cents; 37-37.9 degrees, 74 cents; 38-38.9 degrees, 76 cents; 39-39.9 degrees 78 cents.

UNION OIL CO. OF CALIFORNIA

Crude Oil Prices for Its Purchases at the Well for Crude Produced in Strict Accordance With the Production Allocations Made by the California Statewide Curtailment Committee Effective 7 a.m., June 20, 1931

(All gravities above these quoted take highest price for that field)

Gravity °A.P.I.		Signal Hill	Alamitos Heights Seal Beach	Huntington Beach	Athens, Rosecrans, Dominguez	Torrance	Santa Fe Springs	Playa Del Rey* E. Coyote,	Richfield	Montebello	Santa Paula	Orcutt	Coalinga	Lost Hills	McKittrick, Kern River, Sunset-Midway, Elk Hills, Buena Vista Hills	Gravity °A.P.I.
11-13.9	.....	....	....	....	....	....	....	....	....	....	....	....	....	....	$.50	11-13.9
14-14.9	.....	$.65	$.65	$.65	....	$.65	....	....	$.65	$.65	$.65	$.55	$.55	$.55	.55	14-14.9
15-15.9	.....	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	15-15.9
16-16.9	.....	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	16-16.9
17-17.9	.....	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	17-17.9
18-18.9	.....	.65	.65	.65	....	.65	....	....	.65	.65	.65	.55	.55	.55	.55	18-18.9
19-19.9	.....	.65	.65	.65	....	.65	....	$.65	.65	.65	.65	.55	.55	.55	.55	19-19.9
20-20.9	.....	.65	.65	.65	....	.65	....	.65	.65	.65	.65	.56	.55	.55	.55	20-20.9
21-21.9	.....	.65	.65	.65	....	.65	....	.66	.66	.65	.65	.57	.55	.57	.55	21-21.9
22-22.9	.....	.65	.65	.65	....	.66	....	.67	.67	.65	.65	.59	.55	.59	.56	22-22.9
23-23.9	.....	.67	.67	.67	....	.67	....	.68	.68	.65	.65	.61	.55	.60	.58	23-23.9
24-24.9	.....	.69	.69	.69	$.69	.68	$.65	.69	.69	.65	.66	.63	.55	.62	.61	24-24.9
25-25.9	.....	.71	.71	.71	.71	.70	.65	.70	.70	.65	.68	.65	.57	.64	.64	25-25.9
26-26.9	.....	.73	.73	.73	.73	....	.65	....	.72	....	.70	.67	....	.66	.66	26-26.9
27-27.9	.....	.75	.75	.75	.75	....	.68	....	.74	....	.72	....	....	.67	.68	27-27.9
28-28.9	.....	.77	....	....	.77	....	.71	....	....	....	.74	....	....	.69	.71	28-28.9
29-29.9	.....	.79	....	....	.79	....	.73	....	....	....	.76	....	....	.71	.74	29-29.9
30-30.9	.....	.81	....	....	.81	....	.75	....	....	....	.78	....	....	.72	.76	30-30.9
31-31.9	.....	....	....	....	.83	....	.78	....	....	....	....	....	....	....	....	31-31.9
32-32.9	.....	....	....	....	.85	....	.80	....	....	....	....	....	....	....	....	32-32.9
33-33.9	.....	....	....	....	.87	....	.82	....	....	....	....	....	....	....	....	33-33.9
34-34.9	.....	....	....	....	.89	....	.85	....	....	....	....	....	....	....	....	34-34.9

*Subject to a gathering charge of 5 cents per barrel.

600 gallons at 4 cents a gallon, would produce $28,437,024.

Lubricating oil, 22,585 bbls., or 948,596 gallons at 4 cents a gallon, would produce $37,943.04.

Mr. Franklin pointed out to the committee that the heavy gasoline tax of 5 cents a gallon equals a tax of $1 a barrel on crude oil.

The claim that petroleum should be conserved underground for some future emergency, he said, was a mere cloak to permit the big companies to buy up the oil property of the little fellows and he charged that propaganda in high official circles is promoting this unfortunate policy.

Imports of gasoline from Rumania, 2,700,000 gallons going to Detroit through Canada and a cargo through Baltimore, had tended to destroy the market and the big fellows had asked an embargo on such shipments and at the same time brought in the cheap oil from South America.

The witness dwelt upon the effect of foreign imports on the owners of 300,000 small independent oil wells in the United States, producing 500,000 bbls. a day. Genuine conservation should save those wells, he said, as their potential production is 2,000,000,000 bbls.

Vast areas of prospective oil property, he said, have not been touched, and this is within the United States, so that the talk of exhausting American oil production has no place in the propaganda seeking to displace the output of domestic oil in the interest of the foreign product.

Protest From Motor Owners

There are many protests from those interested in trucks, buses and automobiles being received by the House Committee on Ways and Means now engaged in making up a revenue bill. The general complaint is that these industries are heavily taxed and any additional burden will greatly affect the output and uses of these products. Incidentally, a lessening in the use of such means of transportation would materially decrease sales of automotive fuels and lubricating oil to the detriment of the petroleum industry.

FEW CHANGES IN OKLAHOMA QUOTATIONS

(Continued from Page 8)

that before the end of February it will be reflected in improved refined market prices. They predict reductions in crude oil runs to stills so that the excess gasoline going to storage in February will be less in February than in January.

They do not expect or desire a substantial recovery in gasoline prices during February, fearing that such a development would only result in increased production which would nullify all the work that has been done in bringing an equilibrium between supply and demand. They are hopeful that markets generally can be kept in balance until the spring demand for gasoline is under way and then the refined market backed with a firm crude oil situation can start its return to normal conditions. It is felt that the next week to three weeks should indicate the probable market developments for the next 90 days.

Gasoline and Naphtha

Refiners who have U. S. Motor gasoline to sell on the spot market have not been rushed with orders. Contract shipments have been fair, although in areas where tank wagon and retail markets reflect a demoralized market, shipments of some refiners have been below expectations. Many jobbers are having difficulty in maintaining their usual gallonage in the areas in which they operate and their condition is reflected in the shipments made from their refinery sources of supply.

As previously explained, more attention is being paid to the higher octane gasolines. There are a few refiners who have installed sufficient modern cracking equipment that they are definitely out of the market so far as gasolines under 57 octane is concerned. Cases are cited in which they have raised the octane rating of their regular grade gasoline sold through their own stations to 65 or better. They are not interested in jobbing business except where the buyer is willing to give them from a half to three-fourths cent more than the lowest priced U. S. Motor. In most cases, these gasolines not only have a high octane rating but they also are more desirable from the standpoint of volatility than is required by U. S. Motor specifications.

This situation reflects the fact that the tank car market is becoming more and more selective. About the only market left for the unbranded low octane gasoline is the cut-rate jobber and the third grade pumps of the regular distributors. As explained last week, retail prices are so low for this material that it has lost its attractiveness from the standpoint of profits in distribution. For example, the third grade gasoline and that of the cut-rate stations in Tulsa is selling at 10 cents per gallon, or 5 cents a gallon under the regular white grade and 8 cents per gallon under Ethyl Gasoline and other premium grades. With a 4-cent tax the net retail price on the third grade is 6 cents. With a 3-cent refinery and 1-cent freight rate it is apparent that the 2 cents left does not cover by 3 to 4 cents a gallon the actual cost of tank wagon and service station distribution.

No changes were noted in the higher gravity gasolines. The low on the 60-62 400 endpoint grade to the trade was 3¼ cents, 3¾ cents for 375 and 4 cents for 350 and 360 endpoints. These prices could all be shaded in retail material in Oklahoma and other areas quoting on a Group 3 basis.

Kerosene and Furnace Oils

Kerosene prices continue firm. The fact that inland Texas crude runs to stills have been reduced to a minimum has helped the Oklahoma kerosene market. The North Texas group of refiners in the past have been a large supplier of kerosene both for export and domestic interstate movement. Their runs have been reduced to the point where the local demand is absorbing their kerosene output. They are selling what kerosene they have at 2¾ to 3 cents.

This has left a larger volume of northern business to Oklahoma and Kansas buyers who are selling the 41-43 water white grade at 2⅝ to 2¾ cents. Deliveries are still being made on export business placed in January. It is believed that additional export purchases will be made due to the curtailed runs of some of the larger refiners in the Gulf Coast areas although doubt is expressed as to their willingness to pay present prices.

The situation which had helped the kerosene market has also aided tractor fuels. Regular grades of tractor fuel varying from a 38 gravity light straw to a 41 gravity prime white are firm at 2 to 2⅜ cents. Some of the sellers believe that a spring demand will make its appearance later in the month both for tractor fuel and kerosene.

Furnace Oil

Price weakness was apparent in the furnace oil market the latter part of last week. Contract business and spot orders were slow and buyers were able to shade quotations. However, on Monday and Tuesday buying was more active for low cold test material due to a cold period in the northern states and prices continued firm. The low on zero 32-36 furnace oil is 1¾ cents and prices of the higher gravities are as high as 2⅛ cents. What happens to the furnace oil market over the balance of the consuming season will depend entirely on the weather. Those in touch with the market are predicting that some refiners will find it necessary to dump excess material unless the winter is brought to an end with an extended period of low temperatures.

Fuels and Gas Oils

The general situation in regard to gas oils and fuel oils has been explained. It is fortunate that the reduced crude runs to stills at Mid-Continent refineries and the expansion of cracking has reduced the fuel oil output for the sellers are having difficulty in finding outlets for their output. Practically every class of fuel oil consumers are using minimum quantities of fuel oil. This includes railroads, industries and public utilities. Gas competition has taken part of this business In the case of gas oil, the artificial gas companies apparently have not been buying as much material as last year and sellers of the U.G.I. grade are having their troubles except where they are protected by contracts. Some Texas Panhandle gas oil of 60 to 80 cold test has been sold on a basis of seven-eighths cent per gallon Group 3. The low of the Oklahoma market was generally 1⅛ cents. Prices on fuels ranged from 20 to 50 cents per barrel depending on gravity and viscosity. Prices on some grades were nominal.

Lubricants

The reductions announced last week in bright stocks and neutral oils, it is believed will tend to stabilize the Oklahoma market. No improvement in demand is expected during February unless some export business should develop. Steam refined stocks are weak and the low of this market has been reduced to 3 cents.

Natural Gasolines

The natural gasoline market over the past few days has been in the midst of one of the periodic slow buying periods. Refiners are not making their usual purchases despite the attractive offers that have been made by sellers. The large export order for stabilized material made last week, did not prevent a decline in the Oklahoma market for 26-70 material from 2¼ to 2 cents. This market it is believed will continue to mark time until there are more definite indications of the probable trend in refinery gasolines.

SAN JOAQUIN CHAPTER OF A. P. I. SELECTS NEW OFFICERS FOR 1932

TAFT, Calif., Jan. 30.—Despite inclement weather, a capacity crowd attended the January meeting of the San Joaquin Valley chapter of American Petroleum Institute held here. The meeting was the first conducted under the direction of the following officers, elected to serve for 1932:

P. C. McConnell, Standard Oil Co. of California, chairman; R. L. Keyes, The Texas Company, membership vice chairman; J. B. Stevens, Associated Oil Co., program vice president, and M. W. Morris, Standard Oil Co. of California, secretary-treasurer.

Advisory committee members for 1932 are as follows:

W. C. Cameron, Southern California Gas Co.; E. M. Delaney, Standard Oil Co. of California; L. E. Foust, Associated Oil Co.; A. B. Jenks, North American Oil Cons.; P. T. Martin, The Texas Company; H. F. Owen, Ethel D. Oil Co.; W. J. Schultz, Crescent Petroleum; R. R. Shinn, General Petroleum Corp.; R. M. Smith, Chansler-Canfield Midway Oil Co.; H. S. Stark, Honolulu Oil Corp.; J. B. Wells, Kern Sunset Oil Co., and J. J. Wilt, Standard Oil Co. of California.

E. P. Campbell, of the Standard Oil Co. of California, is A.P.I. advisor for the chapter.

"Prospecting for Oil Among Aztec and Maya Ruins" was the subject of an interesting talk by Earl B. Noble, assistant chief geologist of the Union Oil Co.

Discussion of a question box topic, "How Does the Allowable Crookedness of a Hole Vary With Size and Depth?" was led by A. B. Jenks, superintendent of the North American Consolidated Oil Co. It was the consensus of opinion that the rapidity of change in direction rather than amount of drift was the most important factor in a well. Surveys of a number of producing wells apparently substantiate this view.

Officers and members of the Advisory Committee of the San Joaquin Valley chapter of the American Petroleum Institute:

Top Row, left to right: E. R. Pratt, Honolulu Oil Corp.; W. C. Cameron, Southern California Gas Co.; E. M. Delaney, Standard Oil Co. of California; and R. M. Smith, Chansler-Canfield Midway Oil Co.

Middle Row, left to right: L. E. Foust, Associated Oil Co.; P. T. Martin, The Texas Company; H. S. Stark, Honolulu Oil Corp.; A. B. Jenks, North American Oil Consolidated; and R. R. Shinn, General Petroleum Corp.

Bottom Row, left to right: P. C. McConnell, Standard Oil Co. of California, chairman; R. L. Keyes, The Texas Company, membership vice chairman; J. B. Stevens, Associated Oil Co., program vice chairman; and M. W. Morris, Standard Oil Co. of California, secretary-treasurer.

Advisory Committee members absent from the group are: H. F. Owen, Ethel D. Oil Co.; W. J. Schultz, Crescent Petroleum Co.; J. B. Wells, Kern Sunset Oil Co.; and J. J. Wilt, Standard Oil Co. of California.

ELEVEN TESTS IN BRAZIL

NEW YORK, Feb. 1.—The National Geological and Mineralogical Service of Brazil has completed a series of 11 test-drilling operations in regions of Brazil reputedly oil bearing. Slight showings of oil and natural gas were encountered in Para, the report states, with four petroliferous structures found in the southern part of the state of Sao Paulo. Small showings are reported in Parana and Santa Catharina. While the report indicated insignificant quantities of oil located, the gravity of the oil encountered was reported as very high.

TANKER OUTLOOK IS STILL UNFAVORABLE

NEW YORK, Feb. 1.—Continued low rates in the petroleum tanker market are in sight this year, according to advices received by Funch, Edye & Co., from A. E. Gibson & Co., their London correspondents.

"Since 1920" the Gibson report reads, "expansion in the consumption of petroleum products has been rapid and shortage of tonnage has periodically engendered exceptionally high rates of freight, which induced extensive building programs. A record of tanker freight rates since the year mentioned clearly shows the boom periods, between each of which is a session of comparatvie depression until expansion absorbed the influx of new tonnage. These 'between peak' periods consistently lengthened, which indicates that the tendency during the last few years has been to overbuild. In 1930 the commencement of world trade depression coincided with a very heavy inflow of newly built tankers. This followed a peak in rates in the first three months of that year, after which freights collapsed. The year 1931 can be described without any doubt as the worst year ever experienced by owners of tank vessels. During the whole of the past 12 months the maximum rates obtainable have been insufficient to cover running costs plus depreciation. Fortunately, during the last boom most owners had fixed at least a part of their fleets on period charters, the majority of which remained in force for the greater portion of the year. There has, however, been very moderate demand for tonnage and sufficient vessels have been available for charterers' needs.

"Three factors which have greatly aggravated the position are (1) the increased speed of modern ships, (2) the alteration of the freeboard scale of tankers and (3) the considerable increase of trade from the Black Sea to the detriment of the longer voyages from the United States Gulf and California. Most British owners were content to lay off their free tonnage, but Norwegian owners in particular have competed for employment. A united stand on the part of all owners at any time during this depression would in all likelihood have improved the rates of freight to a moderate extent. The only occasion when an upward movement appeared possible was in October following Great Britain's suspension of the gold standard. One or two charters were arranged with freight payable on the basis of gold, but other countries soon followed Great Britain's lead and competition was again introduced which enabled charterers to fix on ordinary sterling terms without any increase in rates to cover the proportionately heavier cost of disbursement and fuel. The total of laid-up tonnage has been practically doubled since the end of 1930, and, according to recent figures, there are 114 Diesels and 201 steamers out of commission with a total carrying capacity of over 2,500,000 tons.

"For the next 12 months the outlook is not encouraging, yet even the most pessimistic are hardly prepared to consider the prospect of last year's uneconomical conditions being prolonged in 1932. The highly corrosive action on ship's tanks of modern produced spirit makes it necessary to provide larger allowances for depreciation, and more owners are beginning to realize that the better and cheaper policy in the long run is to keep their ships out of commission. Sustained demand depends upon a general trade revival, and it is hoped there may be some alleviation of the long depression towards the end of 1932. With so large a volume of laid-up tonnage it is reasonable to expect the upward trend to be a gradual process and while improvement is likely in 1932 it is possible that there will be no return to reasonably remunerative rates before the first months of 1933. Long spells of idleness are calculated to curtail the useful life of the older tank steamers and when normal trading conditions are resumed the surplus of tonnage may be taken up quicker than is generally expected."

PETROLEUM DIVISION PROGRAM AT A. I. M. E. ANNUAL MEETING

The program for the sessions of the petroleum division of the American Institute of Mechanical Engineers in New York, February 15-18, follows:

Tuesday Afternoon, Wednesday Morning and Afternoon, Thursday Morning, Afternoon and Evening

Flow of Air Through Porous Media, by Joseph Chalmers, E. L. Rawlins and D. B. Taliaferro.
A Method for Computing Pressure Drop in the Pipe of Flowing Oil Wells, by K. B. Nowels.
The Flow of Drilling Mud, by Henry N. Herrick.
A Borehole Camera, by Sherwin F. Kelly. (M. & M.)
Some Experiments on the Behavior of Natural Gas in an Oil Sand Reservoir, by Ionel I. Gardescu.
Some Changing Concepts in the Petroleum Industry, by J. B. Umpleby.
Corollary to the Ownership of Oil in Place, by L. C. Snider.
A.I.M.E. Petroleum Division Activities, by Earl Oliver.
Economics of Proration, by Joseph E. Pogue.
Economics of Domestic Marketing, by Sidney Swensrud.
Foreign Oil Supply and Demand, by E. B. Swanson.
Does the Stock Market Forecast or Reflect the Oil Situation? by Leon R. Gurley.
Production Engineering, by E. H. Griswold.
Production Review, by Earl Trager.
Refinery Technology, by H. W. Camp.
Economic Significance of Oil Developments in 1931, by H. J. Struth.

PRODUCTION—1931 SYMPOSIUM

Domestic

Kansas, by H. S. Bryant.
Oklahoma, by T. E. Weirick.
Texas, except Gulf Coast, by M. G. Cheney.
Gulf Coast, by L. P. Teas.
Texas Panhandle, by W. E. Hubbard.
Louisiana, Arkansas and Mississippi, by H. K. Shearer.
Rocky Mountains, by R. Clare Coffin.
California, by V. H. Wilhelm.
New Mexico, by Walter B. Lang.
Michigan and Indiana, by M. G. Gulley.
Illinois, Ohio and Kentucky, by R. E. Somers.
Eastern Division, by L. G. Huntley.

Foreign

Germany, by W. A. J. M. Van der Gracht.
Russia, by R. C. Beckstrom.
Iraq, by B. B. Cox.
Canada, by Linn M. Farish.
Mexico, by V. R. Garfias.
Peru, by Oliver P. Hopkins.
Colombia, by O. C. Wheeler.
Venezuela, by Fred H. Kay.
Trinidad, by William J. Millard.

SOUTH AFRICA OFFERS PROMISING MARKET FOR REFINED PRODUCTS

NEW YORK, Feb. 1.—While the United States continues the leading supplier of refined petroleum products in the South African markets, and its gallonage sales have continued to increase as consumption expands, it has been losing its percentage of the total sales of major products, the increased business going largely to Persia and the Dutch East Indies, according to F. J. McCarthy, Jr., of the petroleum section of the minerals division of the Department of Commerce.

"From the standpoint of both quantity and value," says the department's report, "gasoline is the most important petroleum product brought into South Africa. The volume has increased rapidly since 1925, but the contributions from the United States, while larger, formed but 47 per cent of the total in 1930, compared with 59 per cent in 1925. There has been a marked increase in receipts from the Netherlands East Indies and Russian gasoline has appeared on this market in the past few years. In 1930 132,000 passenger cars, 1,400 buses, 16,000 trucks and 32,500 motorcycles were registered, compared with only 38,815 passenger cars, 1,989 trucks and buses, and 16,849 motorcycles in 1925.

"Imports of kerosene into South Africa show a slower rate of increase since 1925, and the share of the United States dropped from 99 per cent of the total in that year to only 75 per cent in 1930, although the volume of its contributions increased each year except 1930, when the total imports also declined. Persia and the Netherlands East Indies entered the market during this period, and have increased their contributions steadily, taking the larger share of the new business. Kerosene is the principal means of illuminating houses in the rual districts notwithstanding the gradual extension of electrical lines. The increased use of tractors also adds to the demand for kerosene.

"The South African market for lubricants is not large but is fairly stable and growing. There was a marked increase in total imports in 1930 and the United States still was supplying 64 per cent in that year and the United Kingdom contributed 33 per cent.

"In 1925 the bulk of South African imports of fuel and gas oils came from Germany but at present nearly the entire supply is received from Persia and the Netherland East Indies. The 1930 total of imports is greatly in advance of that for 1925. The principal demand for both gas and fuel oil is for ship bunkering, mainly at Cape Town, Port Elizabeth, and Durban.

"Durban, Cape Town and Port Elizabeth are the principal ports of entry for petroleum products, which then go by rail to the large centers in the interior for distribution. Ninety-five per cent of the gasoline is shipped into the country and delivered to the ultimate consumer in bulk.

"Two grades of kerosene, known locally as 'paraffin', are marketed 'water white' (150° test) and 'standard white' (110° test). Fully 75 per cent of the business is in water white; the standard white is used largely for power purposes. Kerosene usually is sold in cases with two tins, 4 1-6 imperial gallons each, and in drums of 8 to 12 imperial gallons each with 1½-inch bung.

"All of the petroleum products shipped in containers are subject to import regulations, which specify that cases must be strong and well made; that the top must be embossed with the imperial gallon content, the name of the product, the brand, and the name and address of the manufacturer; and must be marked 'Product of ——', with the name of the country of origin.

"There is a 20 per cent ad valorem duty on crude petroleum at present, and one of 6 pence per imperial gallon on gasoline. (The imperial gallon is practically equivalent to 1.2 American gallons and the penny regularly exchanges for 2 cents.) Power kerosene is allowed to enter South Africa duty free, but kerosene for lighting is charged 1 penny per gallon. There is a charge of 3 pence per gallon on lubricating oil in bulk and 15 per cent ad valorem on that in containers. Fuel oil is charged 20 per cent ad valorem and antifriction and lubricating grease 1 penny per pound.

"Effective October 30, 1931, a primage duty of 5 per cent ad valorem was imposed on practically all imports.

"No substitutes for petroleum are reported used at present, but the Transvaal Petroleum Industries (Ltd.) recent organized with a paid-in capital of £165,000, expects to produce crude oil from shale called 'torbanite'. The company is proceeding with drilling in the torbanite field and it is expected that a plant will be erected shortly.

"A growing petroleum market is offerred by the Union of South Africa and its hinterland, and continued expansion appears to be indicated. The problem of introducing a new line, however, is particularly difficult, as the well organized and long established firms make competition very expensive for a new company."

OIL INDUSTRY URGED TO VOICE ITS PROTEST

Oil men in the United States have been urged by W. R. Boyd, Jr., executive vice president of the American Petroleum Institute, to oppose efforts to load the petroleum industry with a disproportionate share of the tax burden. Increases in gasoline taxes were cited as typical of what may be expected, and Mr. Boyd urged those active in the industry "to become militant and vocal, to shout long and loud from every housetop in condemnation of and vigorous protest against this method of industrial destruction."

His letter follows:

"To all oil men:

"I am not an alarmist, but I am tremendously alarmed and exercised over the general trend of government—Federal, state and municipal—to load the petroleum industry with a disproportionate share of the tax burden.

"Gasoline taxation is typical. Heretofore, it has been the industry's policy not to oppose gasoline taxes when revenue was used only for road construction and betterment, and when the tax rate was not disproportionate to the price of the product. But, in an effort to obtain revenue for general and special purposes, lawmakers almost everywhere seem to be turning thoughtlessly to increased gasoline taxes as the easy way to procure additional income.

"It seems to me that the time has come for every man connected in any way with the oil business personally and persistently to become militant and vocal, to shout long and loud from every housetop in condemnation of and vigorous protest against this method of industrial destruction.

"Increasing gasoline taxes are invoking the law of diminishing returns and are killing the goose that lays the golden eggs. They have put a premium on tax evasion and made gasoline bootlegging more profitable than legitimate business. The rapidly growing gasoline tax is fast becoming the greatest tax scandal in history. Nothing short of a mighty howl of protest made drect to individual members of Congress and of state legislatures is going to put the brake on it."

MUST SAVE ENERGY IN EAST TEXAS POOL

(Continued from Page 9)

use by some engineers in charge of properties in the East Texas Field. In other fields it has been proven that tapered strings of tubing are very effective in producing the maximum amount of oil with the minimum amount of gas and in some wells tapered strings have caused them to flow even though they have been pumped for a considerable period.

This feature of producing East Texas wells is one worthy of serious consideration. It was agreed by all that regardless of the amount of oil estimated as being in this field that with the lack of water drive and the low gas saturation of the sand it will be difficult to secure the major portion of it, say 40 per cent, unless every effort is made to conserve all of the available energy now stored in the underground reservoir.

Bottom Hole Pressures

A discussion of bottom hole pressures by C. V. Millikan, of the Amerada Petroleum Corp., Tulsa, developed some interesting points, but Mr. Millikan pointed out that because of the lack of complete data it was difficult to draw definite conclusions as to the rate of pressure decline in this field. It has been given as ranging all the way from 5 to 15 pounds drop per month.

The discussion about pressure drop and water drive developed a lot of different ideas and the opinions which seemed to vary widely as to what is actually happening in this field. Pressures on the west edge are holding up fairly constant, while on the east edge they have dropped off very rapidly.

The reasons assigned to these changes differed and were based upon different ideas as to the source of this soil. Mr. Whitehead contends that the Woodbine sand in this area is unlike the Woodbine sands of other fields in Texas in that the grains are cemented together and do not show movement during the period of oil deposition. In other fields the sand grains indicate that they have been moved as the oil and gas filled the pore spaces.

From this Mr. Whitehead deducts the theory that the oil in East Texas area has come up from the Del Rio black shales beneath the Woodbine sand body and has not migrated in from the west and been driven into place by a water coming from that direction.

Time was too limited to permit a full discussion of those theories of source of oil. All agreed that the area on the east side of the field is subject primarily to the motive force of the entrained gas in the oil sand only, and water cannot reach that portion of the field and maintain the pressure in the sand.

That point being established and also the fact that equalization of pressures has taken place in adjacent areas during the shut down period when the field was under military rule, seems to prove that the more wells drilled and the more oil produced will quicken the tendency for the minimum flowing pressure to be reached in all east side wells.

From the statements made by Mr. Rae in regard to the Oklahoma City Field it would seems to follow that when a sufficient amount of oil and gas has been withdrawn to permit the voids within the reservoir to be great enough, the water will move in rather quickly in long fingers from the west. This water movement will be controlled largely by the beds of impervious material known to exist in this sand body. These beds lie parallel to the Austin chalk, or horizontally, and bottom water cannot move directly upward because of them. Edge water will have to find its way around these partings in the sand and this will impede its progress eastward.

Rate of Flow Retarded

These combined conditions of low gas energy and ineffective water drive seem to point to a slower rate of recovery from these wells as more are drilled and a greater volume of oil removed from the reservoir.

Based upon a total recovery to date of 116,000,000 bbls. of oil and each barrel occupying 5.6 cubic feet of space underground, and upon a total productive area of 100,000 acres of 43,560 square feet each with 20 feet of sand thickness and a porosity of 25 per cent in the sand and a saturation of 95 per cent, the voids already created in this area only represent 7.65 per cent of the total pore space.

It therefore seems that regardless of any compilations that may now be made as to the total amount of oil this field will ultimately produce there is an immediate need for the exercising of the greatest caution as to the rate of withdrawal of the oil and a conservation of the gas energy now in the reservoir. If the water drive from the west is to be slow, and if it is delayed, as predicted by one speaker, by the removal of the major portion of the water from the west edge wells as the oil is produced from day to day, it may be years before the repressuring of the gas area to the east edge of the field will be accomplished.

There is a possibility that the water moving from the west to replace the oil taken from the sands will not pass the extreme western rows of wells. As the oil comes to them they will pump it or flow it out and with it a considerable amount of water. The water that is taken out there cannot move on to the east, and while some of the water may drive past the western lines of wells the wells to the center and extreme eastern edge of the field will be a long time in getting an effective water drive from the west.

If the water underlies the producing formation and will come up vertically through the sands it will be retarded in reaching the bore holes because of the impervious lenses of material interposed between the bottom of the hole and the top of the water sand. Upward movement will therefore be slow. The lowering of bottom hole pressures over a great portion of the Joinerville area indicate that there is no force acting quickly to replace this drop and for this reason a large number of wells located in that section of the field cannot now make 100 bbls. of oil per day allowed them under the proration ruling.

Energy in Sand Limited

Those attending this meeting agreed that regardless of the probable extent of the field, the total amount of oil contained in its reservoir, and the various other factors having to do with possible yield every effort must be made by everyone interested to conserve the natural energy stored up in the sands for the energy, whether it be gas that is compressed into the oil, or water under hydrostatic head adjacent to the field on the west, is very limited in its character and slow in its effective action.

It was stated that all major operators in the field are in accord on this need of practicing good production methods in recovering the oil and further it was intimated that if a few operators in the field insisted upon running their wells wide open regardless of the effect upon their neighbors they would find themselves forcibly restricted in their operations.

P. W. LUPHER, VETERAN IN OIL AND GAS, DEAD

Preston W. Lupher, retired president of the Logan Gas Co., died in his residence, 46 North Parkview Avenue, Columbus, Ohio, Sunday, January 17. Mr. Lupher, an outstanding figure in the development of gas and oil in Ohio and Pennsylvania, was born in Venango County, Pennsylvania, September 20, 1856, and together with his brother, the late Cyrus A. Lupher, he drilled his first oil well in the Clarion County, Pennsylvania, Field in 1877. Subsequently his activities were extended to the Bradford, Butler County, McDonald and other fields in western Pennsylvania.

Preston W. Lupher

Going to Ohio in 1897, Mr. Lupher took an option on the Logan Natural Gas & Fuel Co., which had been organized to market gas that had been developed. This option was arranged in connection with the late Theodore N. Barnsdall of Pittsburgh. The alliance formed between Mr. Barnsdall and Mr. Lupher led to expansion of the company, the supplying of natural gas to Logan and Chillicothe, Ohio, to a network of main lines extending from southern Ohio to Lake Erie and the distribution of natural gas to about 75 cities and towns throughout Ohio.

The purchase and development of the Logan Natural Gas & Fuel Co. led to the formation of the Union Natural Gas Corp., which later combined with the Ohio Fuel Supply Co. to form the Ohio Fuel Corp. The last-named company soon afterward was merged with the Columbia Gas & Electric Corp.

Mr. Lupher went to Columbus in 1902 when the general offices of the Logan company were moved from Lancaster, and continued for 28 years as vice president and general manager of the company until 1924 when he succeeded the late Eugene P. Whitcomb of Pittsburgh as president. He organized the Preston Oil Co., a subsidiary of the Logan company, which was named for him, and following his retirement in 1925, he was in partnership with his son, Morton S. Lupher, and others in the development of other oil and gas properties in Ohio, New York state and elsewhere.

DISCOVERER OF GREATER SEMINOLE AREA IS DEAD

Roland H. Smith, president of the Oklahoma Co., died at his home in Philadelphia, Pa., on Friday, January 29, and was buried in that city after services under Christian Science auspices had been held on Saturday.

Mr. Smith was known to oil men as a persistent and resourceful wildcatter, who backed his hunches and his judgment with his money to the last cent. For years he operated in what is now known as the Greater Seminole area, a territory then condemned by most oil men and geologists because—the theory was—if there was oil there it was so deep that no drill could reach it. Mr. Smith thought otherwise and records as far back as 1914 show him drilling wildcat wells there with no success.

In 1922, Mr. Smith finally found production. He drilled a test on the Betsy Foster farm in Section 33-8-8, near Wewoka. At a depth of 3,150 feet in a sandy lime formation he hit the pay and the well flowed 3,150 bbls. initial production and later flowed as much as 3,500 bbls. per day. He sold his producing lease and other leases in the block to the Dixie Oil Co., a subsidiary of the Standard Oil Co. of Indiana, for about $3,000,000.

The Smith discovery was followed by the exploration and development of the general Seminole area, which since the Smith discovery has produced over 650,000,000 bbls. of oil.

Mr. Smith had not been very active in the oil business since he sold his Wewoka interests, but he was much interested in the trend of the business and was outspoken in his criticism of the general industrial policy since the beginning of the general business depression in 1929.

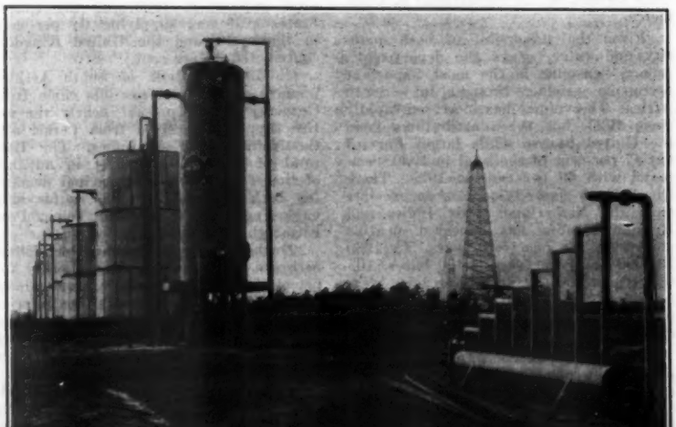
Mrs. Smith and one daughter, Mrs. George Pyles of Philadelphia, and one son, Lloyd Hilton Smith of New York, survive.

GEOLOGISTS PUBLISH NOTES

The Dallas Petroleum Geologists have published an edited edition of the notes taken of discussion at the joint meeting of the East Texas Geological Society and the Dallas Petroleum Geologists held in Tyler, Tex., December 17. The subjects discussed were: Thickness and porosity of producing sand; estimated total ultimate recovery per acre, and for the field as a whole; water encroachment, and source of oil. Copies may be obtained by addressing Sam Aronson, secretary, Dallas Petroleum Geologists, 306 Magnolia Building, Dallas, Tex.

PANHANDLE GAS INQUIRY

AUSTIN, Tex., Feb. 2.—Attorney General James V. Allred announced that Assistant Attorney General Maurice Cheek has been sent to Springfield, Ill., to examine records of the Illinois Commerce Commission as to figures filed by exporters of natural gas from the Texas Panhandle as the basis for rates charged in other states. Mr. Allred said his interest related to the payments to royalty owners and the question whether state tax was being paid on the proper value for the gas.



Water knock out, oil and gas separator and lease storage tanks on a lease on the east side of the Lathrop Field, East Texas Pool. Two other wells in this same area are also making water.

Personal Paragraphs About Oil Men

R. S. McFarland of Tulsa has recently been on a trip to Southwest Texas.

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J. M. Mouser, zone agent of the Prairie Oil & Gas Company, at Eastland, central Texas, is a visitor in Tulsa.

• • •

Earl A. Trager, consulting geologist of Tulsa, has gone to Indiana and will proceed to New York to attend the A.I.M.M.E. meeting.

• • •

E. E. Rounds, foreman of the Tulsa Field area of Prairie Pipe Line Company, has returned to work after a four months' illness.

• • •

H. J. Allen, representative of Norris Brothers, Inc., Fort Worth, Tex., has just returned from a trip to Tulsa, St. Louis and Robinson, Ill.

• • •

D. R. Snow, chief of the geological department of the Barnsdall Oil Company, of Tulsa, recently paid a visit to the San Antonio, Tex., office of the company.

• • •

L. B. Hoss, with the Producers Tanks Construction Company, Tulsa, has been making an inspection trip of the Hobbs, New Mexico, and West Texas fields.

• • •

Jimmie Maxwell, Jr., scout for the Continental Oil Company in the Wichita Falls, Texas, district, is convalescing in a Dallas hospital from an appendicitis operation.

• • •

Ira H. Cram, paleontologist and assistant geologist of the southwestern division of the Pure Oil Company, has been made chief divisional geologist, succeeding A. A. Langworthy, resigned.

• • •

E. D. Luman, chief division geologist of Atlantic Oil Producing Company, addressed the Shawnee Geological Society at its meeting on "The Wapanucka Formation of Southeastern Oklahoma."

• • •

Walter C. Carroll, formerly president of the Oil Well Supply Company and prior to that with the Inland Steel Company, has become associated with the American Sheet & Tin Plate Company, Pittsburgh, Pa.

• • •

P. R. Naylor and B. E. Ireson, of Denver, Colo., and Thomas L. Alford of Great Falls, Mont., visited Alberta recently in connection with the resumption of operations by the refinery of Maple Leaf Petroleum, Ltd., at Coutts.

• • •

Donald Mackie and Miss Frances Lomax, both of Wichita Falls, Tex., were married in that city on Wednesday, January 20. Mr. Mackie is vice president and general manager of the Bradford Supply Company in the Texas district.

• • •

Col. Cicero I. Murray, cousin of Governor Murray of Oklahoma and director of military oil field supervision, has been released from University Hospital, Oklahoma City, where he was taken Sunday, suffering from a nervous ailment.

• • •

Set Herndon, president of the Herndon Drilling Company, of Tulsa, has just completed a trip to San Angelo and Irion County, Texas, where his company is drilling a deep test for the Stanolind Oil & Gas Company on the Williams ranch.

• • •

E. DeGolyer, president of the Amerada Petroleum Corporation of New York, in company with Roger Dennison of Fort Worth, chief geologist for the company in Texas, recently spent some time going over the company's properties in Southwest Texas.

• • •

Officials of Continental Oil Company paused in San Antonio, Tex., on an airplane trip to the company's properties in Old Mexico. In the party were E. J. Nicklos, vice president, L. E. Athey, chief in charge of geophysics, and G. C. Clark, chief geologist.

D. G. Barnett, geologist with the United Gas Company at Laredo, Tex., is recovering from an operation.

• • •

Shep F. Miers, sales department, Kerotest Manufacturing Company, Pittsburgh, Pa., was a recent caller at oil company offices in Tulsa and vicinity.

• • •

Vernon L. King of Los Angeles, Calif., has been on a trip to Southwest Texas. He formerly did considerable research work there as consulting geologist.

• • •

H. N. Wassung, for several years connected with the Standard Oil Company of California's pipe line department at Los Angeles, has been transferred to Kettleman Hills.

• • •

W. H. Worthington, for many years in the oil business in Southwest Texas, but lately gone back to his old profession of mining engineering, was on a visit back to San Antonio, Tex., his home, recently.

• • •

John G. Martin, division manager for Oklahoma, and Kansas for the Ethyl Gasoline Corporation, Tulsa, has been transferred to the New York City office of the same company, effective February 1.

Men of the Industry

Charles Leaver

Charles Leaver, vice president and general manager of the Imperial Oil Refineries, Ltd., graduated from the University of Toronto in mechanical and electrical engineering in 1910. He took post graduate work the next year and in 1912 he joined the engineering staff of Imperial Oil Refineries in Sarnia.

May, 1916, saw Mr. Leaver transferred to the company's Montreal refinery, then nearing completion. Shortly afterward the company's plans for a refinery in Dartmouth and for marketing facilities in St. John's, Newfoundland, being completed, Mr. Leaver was made responsible for their execution. The following March, this work being well under way, Mr. Leaver was made assistant superintendent of the Montreal refinery.

With manufacturing about to begin at Dartmouth, the company, in November, 1917, sent him back there as assistant superintendent. Promotion came again in 1929, this time as superintendent of the Monteral refinery and again in the following year, when Mr. Leaver went back to western Ontario as superintendent of the Sarnia refinery. In July, 1931, he assumed his present position.

O. F. Wilcox, representing the De-Vilbiss Company, Toledo, Ohio, was a recent visitor to Tulsa.

• • •

Clayton G. Dorn, of Bradford, Pa., treasurer of the Forest Oil Corporation, and Mrs. Dorn, are spending the winter in St. Petersburg, Fla.

• • •

Carl H. Dunn, president and general manager of the Dunn Brothers Contracting Company, Fort Worth, Tex., is making a business trip to New York City.

• • •

A. O. Pegg, marine superintendent of the Union Oil Company, recently arranged an excellent program for the Bilge Club, a Los Angeles organization of people engaged in marine work.

• • •

John M. Lovejoy, president of the Seaboard Oil Company of Delaware, recently completed an inspection trip of the Seaboard's properties in the Kettleman Hills and Buttonwillow gas fields.

• • •

James Caven Foster has been appointed manager of sales for the Jones & Laughlin Steel Corporation. He succeeds E. D. Batchelor, who has been placed in charge of a special department of general sales.

• • •

John H. Jaschka and Elmer F. Fathauer, of the St. Louis, Mo., office of the National Malleable & Steel Castings Company, and M. W. Flagle, of the research department of the same organization at Cleveland, Ohio, are on an inspection trip through the Southwest.

• • •

Tom Jones, president of the Oklahoma Contracting Company, Dallas, Tex., is planning a three months' trip to countries bordering on the Mediterranean Sea, paying particular attention to Iraq and Syria where a trunk pipe line is to be laid within the next few months.

• • •

William Hanley, a prominent oil and gas operator in the Pennsylvania fields, and Mrs. Hanley, recently celebrated their fiftieth wedding anniversary. They were married in Oil City, Pa., on January 21, 1880, and shortly afterwards moved to Bradford, Pa., where they have since resided.

• • •

Frank O. Prior, Tulsa, president of the Stanolind Oil & Gas Company; Edgar F. Bullard, vice president, and H. W. Cline, production superintendent, were in the division offices of the company at Fort Worth, Tex., last week conferring with A. M. McCorkle, vice president of the company, and manager in charge of the company's operations in Texas.

• • •

Charles O. Fairbank, son of the late Dr. C. O. Fairbank and grandson of the late J. H. Fairbank, of Petrolia, Ontario, was recently elected to the Petrolia town council. Mr. Fairbank is actively interested in the Canadian oil industry with which the family has been identified since the pioneer days.

• • •

George H. Deike, president of the Mine Safety Appliances Company, Pittsburgh, Pa., has been elected commander of Maj. William H. Davis Camp No. 98, United Spanish War veterans, Allegheny County. He succeeds William S. Haddock, ex-sheriff of Allegheny County. Mr. Deike is a trustee of the Pennsylvania State College, a member of the Chemical Warfare Procurement Board for the Pittsburgh district and a director of the Potter Title & Trust Company of the same city.

• • •

Dr. E. H. Sellards, who has been acting director of the University of Texas bureau of economic geology, has been named director of the bureau by action of the university board of regents affirming the nomination of President H. Y. Benedict. Doctor Sellards succeeded the late Dr. J. A. Udden. For years Doctor Sellards has been engaged in the work of the bureau of economic geology, and was assistant to Doctor Udden before succeeding to the duties as acting director and now as director.

Natural Gas Industry Developments

KISTLER REPLACES DEAL ON O.N.G. DIRECTORATE

Frank E. Kistler, oil man of Tulsa and Denver, has been elected a member of the board of directors of the Oklahoma Natural Gas Corp., succeeding E. G. Deal, according to an announcement by E. A. Olsen, president of the corporation.

Mr. Deal, former president of the corporation and more recently chairman of the board, has resigned and will retire from the utility business in Oklahoma in order to devote more time to other business interests, it was said.

The new director also has been appointed chairman of the finance committee of the corporation. His selection as head of the finance committee, Mr. Olsen said, is in line with the policy to continue development of the Oklahoma Natural by obtaining the services of men who know and understand conditions in Oklahoma.

Mr. Kistler is widely known in this State, especially in oil and gas circles, and formerly was president of the Refiners & Producers Corp. here. He has lived in Denver recently, but hereafter will reside in Tulsa.

SUBURBAN UTILITIES ORGANIZED BY HESTER

Consolidation of three small natural gas utilities into one company and under one management has been announced by C. L. Hester, president and general manager of the newly formed Suburban Utilities Co. Mr. Hester, who was formerly head of the capital investment department of the Oklahoma Natural Gas Corp., purchased the properties of the C. & T. Gas Co., owned by W. L. Cunningham and Archie Tadder, and properties of F. W. Lausen and S. E. Smith. Mr. Hester's company now serves customers between Tulsa and Jenks and in East Tulsa. The company also produces gas as well as distributing for retail purposes.

Mr. Hester left the Oklahoma Natural January 1 after 11 years with the company. He came to the company in 1928 as mail clerk and since has risen steadily to the position he held upon resignation.

HEARING ON GAS CONTRACTS

SHREVEPORT, La., Feb. 1.—Investigation of contracts between the Arkansas Natural Gas Co. or Arkansas-Louisiana Pipe Line Co. and the United Gas Public Service Co., has been ordered for a hearing at Rayville, Richland Parish, February 3. A request for an investigation of the operations in the Richland gas field was placed before Attorney General Percy Saint by 17 land and royalty owners of that parish.

PROFESSOR McLENNAN HONORED

CHATHAM, Ontario, Jan. 30.—Prof. J. C. McLennan, retiring head of the department of physics of Toronto University and well known helium expert, was tendered a farewell dinner recently on his departure for England. Doctor McLennan among other things strongly deplored the waste of between 200,000,000 and 300,000,000 feet of gas daily in Alberta wells.

PEACE RIVER FRANCHISE

CHATHAM, Ontario, Jan. 30. — The natural gas franchise tentatively granted by the town of Peace River, Alberta, to A. W. Bletcher and associates of Lethbridge has been approved by the Alberta Public Utilities Commission. The burgesses of Peace River will vote on the franchise on February 11.

CENTRAL MICHIGAN GAS SERVING FOUR TOWNS

MOUNT PLEASANT, Mich., Jan 30. With approximately 75,000,000 feet of natural gas, the potential open daily gauged flow of the 24 gas wells available for commercial use, the steadily expanding Central Michigan gas field is commanding increased attention as a future source of supply to Michigan cities.

At present four cities, Clare, Rosebush, Mount Pleasant and Midland, along with several farm services, are being supplied natural gas from the field, says the Isabella County Times-News. The Gas Corp. of Michigan, whose system extends into Clare, Rosebush and Mount Pleasant, is reported to be using approximately 350,000 feet per day. The Consumers Power Co., serving Midland, is pulling about 150,000 feet per day through its 40-mile line from the Broomfield Township, Isabella County, gas field to Midland. The company also is supplying a large amount of gas to drilling concerns. Five wells are supplying all of the gas being used commercially from the Central Michigan Field at present. The Gas Corp. of Michigan has three wells hooked up in the Vernon Field, 10 miles north of Mount Pleasant, and the Consumers Power Co. has only two wells hooked up in the Broomfield Field, about 9 miles west of Mount Pleasant, both fields being in Isabella County. The other 19 gas wells are capped.

Three distinct fields have been developed in this region in prospecting for natural gas. In the western part of Isabella County 11 producing gas wells have been brought in, ranging in production from 1,000,000 feet per day to about 9,000,000 feet. About 3,000 acres of land has been proven.

In the Vernon Pool, Isabella County, 10 miles north of Mount Pleasant, seven gas wells have been completed with a daily open flow production of about 16,000,000 feet. The field comprises around 1,500 acres.

Six producers, ranging in daily production to as high as 9,000,000 feet, have been completed in Clare County, chiefly in Grant Township, several miles northwest of the town of Clare. There are about 1,500 acres proven in the Clare Field. None of the production from the Clare Field has been marketed.

The Gas Corp. of Michigan officials estimate the reserves in the proven fields around 3,000,000 feet per acre. With approximately 6,000 acres in the three pools there would be a reserve of 18,000,000,000 feet. On the basis of these figures the present proven field can adequately supply 5,000,000 feet of gas per day for a period of approximately 10 years.

None of the three gas pools has been definitely outlined geographically by tests. Geologists believe the present acreage of the pools will be greatly extended by additional tests, especially in Broomfield.

Under the Michigan state law 25 per cent of the open flow production is the limit to which a gas well may be produced. With the present potential rated at 75,000,000 feet per day upwards of 20,000,000 feet per day is now available for commercial purposes. The four cities now being furnished with gas from the area are using about 500,000 feet a day, leaving room for vast expansion.

Power companies are keeping a close check on the field. When the Consumers Power Co. constructed its 40-mile gas line from Broomfield to Midland the past summer, officials of the company stated that future expansion would depend chiefly on the results from the servicing of Midland, and how the wells showed up over a period of months.

Oil and natural gas in the Central Michigan Field have thus far, for the most part, been found in separate formations. While commercial oil wells are completed between 3,400 and 3,700 feet, gas wells are completed from 1,300 to 1,500 feet. Gas produced from a distinct "sand" from the oil formation is said by some geologists as more likely to hold its production over a greater period, and it is also a "dry" gas, preferred for commercial purposes.

Five gas wells have been added to the field since September, 1931, expanding the proven field but making no limits to it. Greater expansion is predicted.

September 10, 1931, the Michigan Public Utilities Information Bureau issued the following report on the field: "Should additional supplies be revealed by new discovery wells or should present proved areas be greatly enlarged by future drilling it may be possible to add other accessible towns to the Central Michigan market." At the time the report was made the bureau recognized the field as having sufficient stores of gas to warrant supplying the gas commercially to four communities with an aggregate population of 15,090 based on the populations of Midland, Clare, Rosebush and Mount Pleasant.

Supplies of September 10 did not warrant widespread distribution, the bureau said. During the past four months new wells have both added to the potential production and extended the proven area.

Saginaw and Bay City, recognized as possible new markets for natural gas, are reported to be using from 2,000,000 to 3,000,000 feet of artificial gas per day, an amount which the natural gas fields could supply, it is believed.

TRI-STATE CONTROLS RATHBONE GAS FIELD

ELMIRA, N. Y., Feb. 1.—The Tri-State Gas & Electric Corp. has consummated a deal involving more than 5,000 acres of land in the new Rathbone natural gas field and will continue drilling operations consistent with its holdings. Approximately 2,600 acres in the heart of the field have been acquired from Linderman-Crane, Inc. This acreage, along with 2,400 acres held by Wright, Kriz & May, taken over by the company several weeks ago, and the firm's own holdings, gives the Tri-State company virtually complete control of the Rathbone Field.

SHELL CORP. ORGANIZES NATURAL GAS DIVISION

The Shell Petroleum Corp. recently organized a new division, to be known as the gas department, to handle the buying and selling of and accounting for all gas developed or used in its operations. Stanley Sellors, with headquarters in St. Louis, Mo., will be the acting head. James W. Cowles will be in charge of the northern division with headquarters in Tulsa, and E. S. Quinn will be in charge of the central division, with headquarters at Dallas, Tex.

CANADIAN GAS PRODUCTION

CHATHAM, Ontario, Jan. 30. — Revised official figures show that natural gas production for all Canadian fields in November, 1931, amounted to 2,539,948,000 feet, compared with 1,901,073,000 feet in October. Of the November production Alberta wells accounted for 71.7 per cent, Ontario wells 26.2 per cent and New Brunswick wells 2.1 per cent. The output for the 11 months ending November 30 aggregated 23,729,065,000 feet, a decline of 7.9 per cent from that for the same period of 1930.

OLSEN HEADS COMMITTEE FOR GAS CONVENTION

Preliminary plans for the national meeting of the natural gas division of the American Gas Association are fast being made in Tulsa. Announcement has been made of the appointment of five Tulsans to important posts in arranging for the convention, which will be held in Tulsa May 9, 10 and 11. Nearly 1,500 delegates are expected to attend.

E. A. Olsen, president of the Oklahoma Natural Gas Corp., heads the committee on general arrangements, and B. F. Pickard, Oklahoma Natural vice president, heads the committee on publicity. Pickard said that W. M. Hines and Reid McBeth, of the company's executive department, would comprise the remainder of his committee. William Way, general manager of the International Petroleum Exposition, is also assisting in preparing for the huge gathering.

One of the first speaking invitations to be extended was given Gen. W. W. Atterbury, president of the Pennsylvania Railroad, according to Pickard. The general was a Tulsa visitor recently. Pickard indicated he would be able to announce soon the selection of other speakers.

APPLIANCE INJUNCTION STAYED BY APPEAL

AUSTIN, Tex., Feb. 1. — Court steps have been taken by which the San Antonio Public Service Co. is privileged to continue its retail merchandising of gas and electrical appliances, pending its appeal from District Judge Charles A. Wheeler's decision enjoining its sales activities.

The injunction was granted on Attorney General James V. Allred's suit, attacking this activity as outside the corporate powers of the company, brought as a test of the power of all public utilities to vend appliances.

Attorneys for the San Antonio company filed a supersedeas bond in Judge Wheeler's court, under which the authority was preserved to continue operations until a final court decree has been made on appeal of the case.

The case was brought as a test involving the corporate powers of all public service companies. Mr. Allred asserted in his petition that the company not only exceeded its powers, but that its operations tended to a monopoly in the field of retail merchandising of gas and electrical appliances. His suit asked a receivership for the company, forfeiture of its charter, injunction against further merchandising, and its ouster from the state. The only court order granted was the injunction.

GAS MARKETING PROJECT

CHATHAM, Ontario, Jan. 30.—Independent operators in the Turner Valley Field are proceeding with their plans for pooling and marketing their natural gas production. About a dozen independent companies are already entering the pooling agreement. No arrangements have yet been made for the proposed conference with Regina, Saskatchewan, city authorities in regard to a natural gas supply for that city.

EXCELSIOR SPRINGS FRANCHISE

EXCELSIOR SPRINGS, Mo., Feb. 1. A new proposal for a gas franchise has been submitted to the city council by the Missouri Power & Light Co. The present gas franchise expires March 5. A special election was held in December, 1930, at which time a natural gas franchise was defeated.

Oil Industry Equipment and Supplies

DESIGN OF VALVE SAID TO ELIMINATE EROSION

Erosion in valves handling liquids and gases at high velocities is essentially a problem of design, according to engineers of the Ludlow Valve Manufacturing Co., Troy, N. Y., and valve wear is to be minimized or eliminated by removing the cause of erosion. The valve design developed by these engineers is one that provides, with simplicity, a series of annular expansion chambers which are a part of the valve plug, giving it the form of a corrugated cone. This multistage cone, according to the engineers, makes the

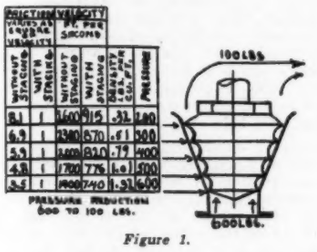


Figure 1.

new valve of universal utility in the power plant, on process lines and wherever perfect performance is required in blowoff, throttle, drain and stop valves, with safety, close control and long life.

In Figure 1 are shown diagramatically the characteristics of the valve so designed operating to reduce comparatively hard, saturated steam under 600 pounds pressure, to comparatively soft, dry steam, leaving the valve in cracked position at 100 pounds pressure. Where a valve in the ordinary single-seat arrangement is subject to the full pressure drop across the seating surface, the multistage valve, which has five or more seats, operates in such a way that each con-

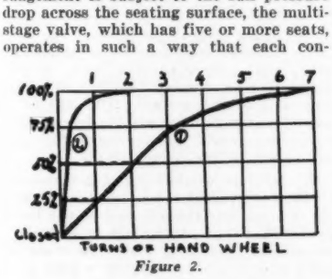


Figure 2.

tact opens into an expansion chamber in which the pressure is partly released, the density lowered and the velocity further reduced.

The grooves on the valve cone form the expansion chambers which increase in area with the circumference of the cone, and provide separate back pressure pockets which retard the flow. The action of the multistage valve in reducing velocity from the moment of cracking at less than one-ten-thousandth of an inch, thus operating at the point where erosion effects are ordinarily most in evidence, points to the utility of this valve, the engineers point out, as a throttle for steam, air, gas, water and oils.

In Figure 2 are compared the successive orifices of a standard valve having a single seat (curve 2) and a valve equipped with the multistage seating cone (Figure 1). The safety feature is emphasized in boiler blowoff service. In some blast valve arrangements where a quick-opening valve is in tandem with a slow-opening, screw-actuated valve, pressures sometimes are handled which place too great responsibility on the manipulator of the dual installation, and negligence or inexperience may lead to water shocks and serious damage.

An interesting application of the multistage arrangement is in a nonfreezing valve to operate on high-pressure gassers. The valve cone is longer and has proportionately more contact lands. Other adaptations are also introduced. According to Ludlow engineers, this valve not only permits a closer control of the gas flow, but it eliminates the freezing action of the expanding gas by reducing the rate of volume change and by providing heating effect due to skin friction across the corrugated area of the valve cone.

Valves using the multistage cone are said to improve with use. As the contact lands seat against the converging walls of the outlet the beaded contacts gradually burnish the seating, correcting blemishes or effects of scouring, scoring, expansion and contraction. Trouble from scale and other foreign elements is eliminated, according to the engineers, because the contact lands easily cut through foreign particles and crush them so that they are removed with the stream as the valve is closing.

In the open position the cone is suspended within the center of the vortex and remains perfectly balanced, preventing chattering. When fully opened the top of the cone bears against the bonnet cover where it is out of the path of the flow.

AMONG THE EQUIPMENT HOUSES

At a special meeting of the board of directors of Fisher Governor Co., Marshalltown, Iowa, Jasper H. Fisher, associated with the company since 1912, was elected president. Mr. Fisher has served as secretary, president, and for the last two years as chairman of the board of directors. He succeeds L. W. Browne, who resigned as president and member of the board but retains a stock interest.

S. F. Keener, Ohio district representative for Foote Brothers Gear & Machine Co., with headquarters at 401 Highland Avenue, Salem, Ohio, announces the appointment of M. L. Rowe in charge of the Cleveland office at 1940 East Sixth Street, Cleveland. Mr. Rowe will serve customers in the northern half of Ohio. Another office is maintained by Mr. Keener in Cincinnati, 7 West Sixth Street, to cover the southern half of the state.

The O. C. Keckley Co. of Chicago, manufacturer of explosion-proof resisting fittings and brass and forged steel refinery gauges, has appointed the Woobank Pump & Machinery Co. of Tulsa as its district representative.

Clarence E. Searle, general representative of the Allis-Chalmers Manufacturing Co., has resigned to accept the vice presidency of an eastern firm.

H. W. Bishop, Jr., formerly sales manager for the Harrisburg Pipe Coupling Co., is back with the Wheeling Steel Corp. as special agent, with headquarters in Wheeling, W. Va.

The Reed & Prince Manufacturing Co. of Worcester, Mass., has been licensed by the Dardelet Threadlock Corp. to manufacture and sell bolts, nuts and screws threaded with the Dardelet self-locking thread.

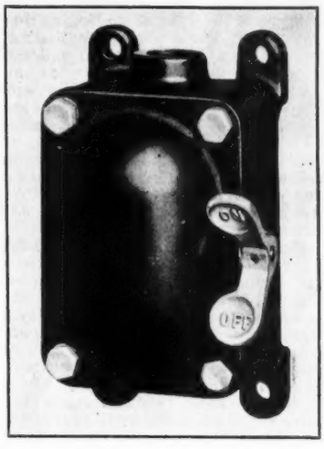
R. B. Hall & Co., with general offices in the Magnolia Building, Dallas, announce addition to their sales force of Gus F. Bell, Shreveport, La.

James B. Burwell of Canton, Ohio, has joined the service department of the National Oil Products Co., Harrison, N. J., as grease technician.

R. L. Suhl, for the past three years assistant to the late Frederick S. Jordan, succeeds him as manager of the nickel sales department of the International Nickel Co., Inc. Ransom Cooper, Jr., Walter C. Kerrigan and Charles McKnight have been appointed as Mr. Suhl's assistants.

BR-11 CONTROL STATION MADE EXPLOSION PROOF

Class 9001 Type BR-11 explosion proof control station manufactured by the industrial controller division of the Square D Co., Milwaukee, Wis., has been ap-



proved by the Underwriters' Laboratory for Class 1, Group D, which comprises such hazardous locations as gasoline plants, oil refineries, paint and lacquer plants, etc.

This explosion proof control station is of the three-wire, momentary contact type provided with one normally open and one normally closed contact enclosed in a cast iron housing. It is so constructed that it will withstand an internal explosion without injury to the enclosure and without transmitting flames to the surrounding gases. The approximate dimensions are 6½ inches high over the mounting lugs, 3½ inches wide, and 3¼ inches deep.

LINDE INTRODUCES NEW SERIES OF REGULATORS

The Linde Air Products Co., 30 East Forty-second Street, New York, has introduced an entire series of new Purox oxygen and acetylene regulators superseding its former line. All Purox welding or cutting outfits now include these new regulators where formerly Metal Master regulators were supplied as part of the regular equipment.

The new Purox series comprises six regulators, designated as Nos. 33 and 34 for acetylene; Nos. 13, 14, 23 and 24 for oxygen. All regulators in this series have the same general external appearance. They are of all-metal construction, simple, compact, rugged. The required volumes of oxygen and acetylene essential for maintaining a neutral flame at the blowpipe tip are delivered to the welding or cutting blowpipe at uniform pressure.

One of the outstanding design features is a self-aligning valve of the nozzle and yoke type to insure sensitive action and freedom from leakage. Simplicity of construction also eliminates any need of disturbing the diaphragm, bonnet, pressure-adjusting screw or pressure-adjusting spring when replacing a worn valve seat. Access to the interior of the regulator is gained by removing a plug in the rear of the body.

POSITION OF THE VALVE IS TOLD BY NEW DEVICE

A valve-position indicator invented and patented by E. V. Bryant, of Lodi, Ohio, shows when attached to a valve whether the valve is open, closed or at some intermediate position so that its degree of opening or its open or closed position may be determined at a glance. The device indicates in revolutions of the valve and fractions thereof the degree of opening of the valve, so that the position of the valve may be ascertained accurately. The indicator may be used with axially movable or nonaxially movable valves, and it can be used on old and worn valves as well as on new ones.

The inventor is connected with the Buckeye Pipe Line Co. and he has developed the appliance with a special view of its use in pipe line operation. It enables the operator to avoid positioning a valve improperly and it helps in finding leaky valves by reason of the fact that if there is no foreign material under the discs a valve provided with the indicator always will close to the number of rounds which the plate on the indicator specifies. A relief man coming on duty at a pump station can tell at a glance whether a valve is open, closed or partly closed without experimenting with it.

LEAKAGE MINIMIZED IN BOTTOM-OUTLET VALVES

Another improvement designed to increase the efficiency and safety of tank cars and storage tanks has been announced by the General American Tank Car Corp. of Chicago. It consists of a bottom-outlet valve which is said to make leakage virtually impossible. As such valves are located at the center and bottom of the tanks, they are subjected to corrosive influence and frequently become filled with dirt and scale.

The company has endeavored to improve these valves by the use of a better grade of material and by improved design, which includes a removable bronze seat held down by the same studs and nuts which hold the valve together. By removing four nuts the entire valve, including the valve seat, may be removed from the car. The valve plug is made up of three stainless-steel discs and two resilient discs of special elastic material which resembles rubber but does not deteriorate from contact with hydrocarbon oils. The combination of steel discs and elastic material gives five seating elements, almost completely eliminating the possibility of leakage even with the valve filled with scale, according to the manufacturer. The ample area of both the seat and the valve protects against cutting and assures long life.

When the valve is open there are no guides or projections obstructing the flow of liquids. The discs come progressively into engagement with the seat. They revolve until they seat, thus wiping the surfaces clean.

Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

In case an immediate answer is important, one will be given by mail if the writer requests it.

LUBRICATION FOR OPEN GEARS

Can you give me some advice as to the best kind of lubrication to use on the open gears of a crane? I have used a good many different grease kinds and I have had a good deal of trouble with the grease leaving a sort of tar-like stuff sticking to the gears. Sometimes it seems to be gritty. Can you tell me what would make a good home-made grease so that I could make it myself?—E. E. E.

You evidently have been unfortunate in your choice of ready-prepared lubricants, for some of those on the market are said to be wholly efficacious, with neither of the objections you mention. It would seem as though a standard lubricant, obtained ready for use, would meet your needs and be more convenient than anything you could make yourself. However, since you ask for the ingredients of a good mixture for open gears, the following is offered: White lead, one-half pound; cylinder oil, one-half gallon; flake graphite, one-half pound. This mixture is said to adhere well to gears and it can be put on with a brush, as required, at intervals of about five hours. It should be pointed out that in selecting a cylinder oil for this lubricant care should be taken to obtain one free from tendency to gum.

The graphite and oil form the lubricating content of this mixture. The white lead acts as a binder and keeps the gears from cutting. Cup grease may be substituted for the cylinder oil. The graphite may be omitted, but it is not advisable to do so in warm weather. The white lead mixture may be made heavier for warm weather by using less oil or grease in proportion to the quantity of flake graphite.

The standard gear compounds may be obtained in grades that are suitable for use in various temperatures.

CAUSE OF TEMPERATURE RISE

It has long been noticed that flowing wells in the Gulf Coast area register a sudden rise in temperature of oil produced before the appearance of salt water. This occurs sometimes several days before any trace of water can be found in the oil. Will you kindly explain what causes a temperature rise normally to precede salt water encroachment?

In the case of a deep well producing from about 5,000 feet through 2½-inch tubing suspended from the surface so that the bottom of the tubing is hanging 18 or 20 feet above the top of the screen the temperature is noticed to rise suddenly about 6° F. The well has been producing pipe line oil for several months at the rate of 800 bbls. per day on a choke of nine-thirty-seconds-inch installed in the christmas tree. The gas-oil ratio has been fairly constant at 310 to 1 throughout the life of the well. The tubing pressure has decreased during the life of the well from 645 pounds to 595.

Centrifuge tests made during the 24 hours following the rise in temperature reveal no trace of basic sediment or water. During this time also there is no appreciable change in the amount of oil produced or in the gas-oil ratio.

In this case should salt water be expected to show up in the oil soon? If so, what could be done to prevent the appearance of salt water? Should the choke be reduced to increase the back pressure because of the temperature rise or should the well be permitted to flow on the nine-thirty-seconds-inch choke until something further is observed? If after a few days a centrifuge test shows one-half of 1 per cent salt water, what should be done?

The greatest ultimate recovery of oil is desired as there are no adjoining leases or wells. Approximately 100 feet of screen was set in the oil sand.—W. H. C.

While you do not state definitely that this production is from a salt dome well, it is assumed that such is the case and the following explanation of probable causes for increase in temperature is based upon that supposition.

It generally is assumed in all oil fields that increase in the temperature of oil indicates close proximity of water. This never has been explained fully, but experience has shown it is usually a fact that when the oil becomes warmer the well goes to water soon. To explain why this should occur may be difficult but the following suggestions are offered to give a better understanding of underground conditions which may affect oil temperature when water is close.

From Kent's Engineering Handbook it is found that the relative thermal conductivity of petroleum is 1.0302 and for salt solution, NaCl 3.3373. This is expressed in B.t.u. per square foot per inch of thickness per degree Fahrenheit difference in temperature. This indicates that the water is a better conductor of heat than the petroleum is and that as long as the body of oil between edgewater and the bore hole is large it will form a good insulator against the transmission of heat from the water to the oil being produced.

As the oil is withdrawn from the well this body of insulating fluid is reduced until it is no longer effective and the temperature of the oil produced is noted to rise. You state that the increase of 6° F. occurred suddenly. Unless you have kept complete and careful records of oil temperatures over a long period, one is inclined to believe that there has been a gradual increase in oil temperature over an extended period, especially at the bottom of the hole. This increase might not have been registered at the top of the hole because of loss of heat in the oil as a result of radiation through the casing or tubing until such time as the total amount of heat so radiated raised the temperature of the flow string enough to permit the oil to be delivered to the surface and show the marked temperature increase you describe.

So much for the mechanics of conducting heat. The next question is how did the water become heated, and you are referred to the report of K. C. Heald, Gulf Companies, Pittsburgh, Pa., made before the American Petroleum Institute at its December, 1929, meeting in Chicago on "Determination of Geothermal Gradients in Oil Fields on Anticlinal Structure." This report is divided into several sections. One deals with Texas, and the following quotations are taken from it where reference is made to salt dome structures:

"Four salt domes have been studied: three in the Gulf Coast region and one in what is commonly called the 'interior salt dome province.' In all of them the same general tendencies were observed. The temperatures both on and near the domes are high compared to West Texas, but somewhat cooler than those in the Balcones fault zone, temperature increasing at the rate of about 1° F. for 50 feet of depth.

"The most interesting feature of the temperature work on the salt domes, however, is that the highest temperatures seem to be very definitely associated with the salt dome itself. Temperatures are highest above the salt, and the decrease in temperature farther and farther away from the dome is unmistakable. To make the situation even more interesting, the work has shown that temperatures at depths as shallow as 200 to 300 feet are significant. This has not proved true in other parts of Texas.

"The apparent concentration of heat near the salt domes may perhaps be explained by the fact that salt is an excellent conductor of heat, and the salt column is thought to extend uninterrupted to depths of from 10,000 to 20,000 feet, where high temperatures must exist.

"Another factor that may contribute is the fact that the salt was all at great depth before it was intruded into the overlying sediments, and it seems probable that it has not yet lost all of its original heat.

"A third contributing factor may be hot waters ascending around the edges of the salt dome.

"A fourth, which seems less probable but which has not been disproved, is that there is or has been some heat-releasing chemical reactions involved in the formation of the thickness of anhydrite that are commonly found associated with salt domes."

That, it is believed, provides plenty of evidence concerning the source of heat and the first statement relative to the thermal conductivity of salt water and petroleum indicates the process through which the heat from the salt water has been able to penetrate the ever-thinning blanket of oil between the edgewater and the bore hole.

Under normal conditions it is reasonable to assume that there is a temperature gradient from the point of contact between edgewater and oil and the center of the body of oil. If the well is placed in the center of the body of oil, the movement of water through the formation will then require the longest time and the temperature increase of the oil will be gradual.

If on the other hand the well is located near the edge of the oil body, hot water from the near side could move more quickly toward the well, but as the production of oil should be from all directions around the bore hole the cooler oil from the side away from the edgewater might tend to reduce the temperature of the heated oil from the water side and in this way the temperature rise might not be noted readily as the oil was produced.

The small drop in pressure at the well head indicates that some form of energy other than the expansive force of the gas has been forcing this oil into the hole and to the surface. The 310 to 1 gas-oil ratio is low and under normal conditions would not represent full gas saturation of the barrel of oil.

It therefore would seem that little can be done to prevent the water from breaking through into the well and as you have produced the well through nine-thirty-seconds-inch choke for some time it would seem that you have obtained a high percentage of the oil from the formation ahead of a water drive.

The increase in temperature seems to indicate that this water is hot, and if this is the case past experience has shown that once this hot water passes through an oil-bearing formation and drives the oil ahead of it there is little that can be done later to get more oil from the water-flooded area.

It is believed that you will gain the greatest possible ultimate recovery of oil through this well because of the fact that it has been operated through choke with a drop of only 50 pounds in top hole pressure during the life of the well. This indicates conservation of energy that has moved the oil to the well, and it is assumed that this energy has been water under hydrostatic head because of the low gas-oil ratio of the oil delivered to the surface.

While this explanation has been based upon the assumption that you are operating in a salt dome field, the general facts are true for other edgewaters, but the reason for their having temperature may vary. It is suggested that you obtain a copy of the report of the committee for the American Petroleum Institute on geothermal gradients for general information on that subject.

WHY WAS IT CALLED THAT?

BORER

Mention of a borer nowadays brings to mind one of the various insects which pass their pestilential lives trying to destroy your favorite plants and shrubs. But in the pioneer days of the oil industry a borer was a driller, for the quite obvious reason that he bored holes in the ground. Drilling tools were referred to as boring tools. An early publication of petroleum says in describing an oil fire:

"A gentleman by the name of Jacob Crowe was sinking a well on George's Creek, Fayette County, Pennsylvania, and when the drill struck the oil deposit a powerful volume of carbo-hydrogen gases ascended to the surface, filled the atmosphere and coming in contact with a stove in a shanty some distance from the well a terrific explosion ensued and flames darted into the air 60 feet high! Fortunately no one was injured, and the flames were finally subdued; but the experienced borers never permit fire anywhere near the well upon which they are working."

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

BLENDING OF LUBRICATING STOCKS

We would like to obtain a complete set of instructions and information covering the blending of motor oils from bright stocks and neutrals. If you can give us this information we will greatly appreciate it.—F. M. S.

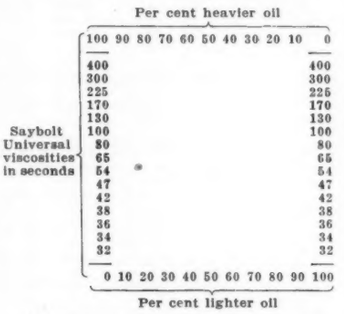
Lubricating stocks are usually blended with gravity or viscosity serving as the guide. Since viscosity is the most important property of a lubricating oil, different oils are commonly mixed on the basis of viscosity. When the gravities of the base stocks and the desired blend are known the simplest method is to make use of the well-known formula for blending, known as the rectangle rule. This follows:

Set down in the left-hand corners of a rectangle the given A.P.I. gravities of the two oils. Set down the desired gravity in the center. Place the difference between the desired number and the two given numbers in the opposite right-hand corners at the ends of the corresponding diagonals. The figures thus obtained show the relative number of parts of the oils, represented by the given numbers which lie on the corresponding lines of the rectangle, to be used for the desired blend. The results will be more accurate if the A.P.I. gravities are first converted to specific gravities. Example—In what proportions should 28.4° A.P.I. and 25.2° A.P.I. oils be blended to make an oil having 26.2° gravity? Following the rule:

28.4		1
	26.2	
25.2		2.2

therefore, 1 part of the 28.4° oil and 2.2 parts of the 25.2° oil will make a mixture having 26.2° A.P.I. gravity.

The most satisfactory and quickest way to arrive at the proportions when blending on the basis of viscosity is by means of graphs or charts. Winslow H. Herschel has discussed the Saybolt viscosity of blends in Technological Paper 164 of the Bureau of Standards, 1920. Several formulas, tables and charts are presented. Analysis is made of the form of blending chart proposed by W. E. Espy, Petroleum (Chicago), Vol. 8, p. 27, 1919. Following this form Herschel investigated the Saybolt viscosities of blends containing 25, 50 and 75 per cent of the heavier oil and prepared a diagram for interpolating the viscosity of a blend. A chart similar to this may be made by marking off 10 by 14 squares, each of which is three-eighths inch on a side, the 10 squares at the bottom ranging from 0 to 100, left to right, for percentage of the lighter oil, and the opposite at the top for the per cent of heavier oil. To make this clearer, the numbers of the line are shown in tabular form, as the skeleton guide, the midway viscosities should be inserted in each division and then it will be possible to obtain the additional units by interpolation.



The Saybolt viscosities are in seconds, the component oils and the blend being at the same temperature.

This diagram is used with a straight-edge. Connect the two viscosities of the oils to be blended by means of the straight-edge, then look along the horizontal line from the intermediate desired viscosity to the point where this line meets the straight-edge. Reading up from this point for the percentage of the heavier oil and down for the percentage of the lighter oil to be used in making the mixture. Example—An oil of 90 viscosity is to be mixed with a lighter oil testing 38 viscosity to make an oil of 54 viscosity. The quantities required are 55 per cent of the heavier and 45 per cent of the lighter oil.

Any scheme of this sort will give approximate figures, for differences in composition and character of the blended oils are not taken into consideration. However, when local conditions are well under control a chart of this sort will be found sufficiently accurate for all ordinary purposes.

ACCURACY OF GRAVITY DETERMINATIONS

A phenomena concerning crude oil to which we can assign no reason is constantly occurring in this field and we would like your opinion. Why should this crude leaving the small gathering tanks in the field show 28.9 to 29.2 gravity and after being pumped 350 miles show a gravity of 29.7 to 30.0° A.P.I.? This crude is being pumped from an elevation of 2,600 feet to one of 960 feet—D. L. W.

The hydrometers used for determining the A.P.I. gravity of crude oil should each have a range of 10 degrees, with subdivisions of one-tenth degree, for accurate readings. The manufacturer will certify to an accuracy of one division, that is one-tenth degree, and two different observers should check to two-tenths of a degree.

When crude oil or gasoline is transported through a pipe line there is always a tendency to lose gravity and I do not know of any instance where a real increase has been obtained. This statement is based on the movement of a batch of oil that is not subject to alteration in quality by any additions along the line. The extent of loss in a pipe line system through evaporation, which is reflected in a decrease in gravity, depends upon the materials used in the line, workmanship, condition of equipment and the character of the storage. Admitting a modern line, with everything in the best of condition, the drop in gravity should be within 1 degree when the distance is no more than 400 miles.

In the instance reported there appears to be differences ranging from .5 to 1.1°, which is too much just at the grade changing point on the price table. My suggestion would be to have the hydrometers that are being used in this service very carefully checked against certified instruments by a competent person, then if your instruments are found to be correct the variations quoted would indicate careless testing.

Very frequently too little attention is paid to the determination of gravity when large volumes of oil are involved. Nothing but the exact figure can be satisfactory, because a difference of 1 degree may mean a considerable sum of money. The price tables have shown differences ranging from 1 cent to 5 cents per degree, which, on the minimum tender of 100,000 bbls., is equivalent to $1,000 to $5,000 for a single shipment. This indicates the importance of careful testing with accurate hydrometers.

AGITATOR TREATMENT

Could you tell me how long crude is allowed to stay in the soda or acid treatment before it is distilled?—S. J. M.

I have no knowledge of any crude receiving the complete sweetening with sodium plumbite, the doctor treatment, or acid treatment similar to that used for the purification of gasoline, kerosene and lubricating distillates. Occasionally crude oil is pretreated with alkaline material for the purpose of reducing the hydrogen sulphide content, and large quantities of oil produced in an emulsified condition, must be treated in order to meet pipe line specifications. This treatment is of a special nature and not at all comparable to that used for the distillates. However, when comparatively small quantities of crude oil have to be refined, it may be advisable to make use of such methods because of the excessive corrosion that otherwise follows. If the agitator treatment were to be applied to the purification of a crude oil, the operation would be similar to the light oil method.

The gasoline distillate is now seldom acid treated, the purification being confined to the removal of hydrogen sulphide and mercaptans by the sodium plumbite method. The batch agitator treatment will be outlined as for the treatment of a kerosene or pressure distillate.

The distillate is first treated with a very dilute solution, say 1°-2° Be., for the purpose of removing traces of acid and some of the hydrogen sulphide; this is followed by washing with water. Then sulphuric acid is added after the water has been drawn off. The quantity of acid required will vary with the oil to be treated, small quantities as low as 1 pound per barrel up to 10 pounds have been used. After agitating, the acid is permitted to settle and then drawn off. The next operation is a water wash followed with an alkaline wash. The sweetening step follows.

The agitator is charged with the proper quantity of the distillate and then the sodium plumbite solution is pumped into the liquid, entering the liquid below the surface so as to eliminate any danger of the development of electricity. Then this heavy liquid is circulated by withdrawing from the side and discharging back into the agitator near the top of the liquid. After this circulation has continued for 30 minutes to an hour, depending largely on the volume treated, a small quantity of sulphur is added and circulation again set up. The product is tested from time to time by removing small quantities and applying the regular doctor test, together with the copper strip test; then when a sweet reaction is obtained and a negative corrosion, the operation is complete. After the removal of the sludge and remaining chemicals the oil is washed with water. During the entire time the mixtures are kept in violent agitation by means of compressed air. In all cases the time of contacting with the chemicals is about 30 minutes to an hour, the acid treatment usually requiring the most time. The strength of the doctor solution, sodium plumbite, is indicated by the density expressed in Baume degrees for heavy liquid, commonly ranged from 10 to 20° Be. The lead content varies with the strength of the solution.

Your inquiry suggests that small quantities of oil are to be handled, so the time required for the desired results will probably not be so long as I have indicated. However, this is controlled by testing.

HYDROCARBONS IN PURE GASOLINE

What hydrocarbons would be present in a good grade of gasoline if it contained nothing but hydrocarbons?—E. M. W.

Pure gasoline is essentially a mixture of the hydrocarbons including pentanes, hexanes, heptanes, octanes, nonanes, decanes and undecane. If there were no cracking in the separation of a gasoline from a high quality crude oil, with excellent fractionation, the heaviest hydrocarbon present should be undecane, $C_{11}H_{24}$, having a boiling point of 383° F. The lightest hydrocarbon, pentane, boils at 97° F. A synthetic product of the indicated composition would therefore have an initial boiling point of 97° and an endpoint of 383° F. However, the presence of very small percentages of the heavier hydrocarbons raise the final boiling point of the commercial gasoline. Also, poor fractionation on the light end may permit the presence of the lower hydrocarbons, and even dissolved gases, such as methane and ethane, to cause lowering of the initial boiling point. The presence of the lighter hydrocarbons is responsible for high vapor pressures and the troublesome vapor lock in the gasoline engine.

Perfect fractionation is not feasible with the equipment required for the large scale operation of the refinery, and it is not necessary in order to make a high-grade gasoline such as is used for motor fuel. The treating process should remove the objectional quantities of sulphur introduced by means of the several sulphur compounds that accompany the petroleum hydrocarbons. The fractionating towers prevent the presence of the heavy hydrocarbons beyond the gasoline range which contain oily compounds and gummy substances.

As gasoline is separated directly from petroleum by distillation and manufactured by the cracking process, it may contain both saturated and unsaturated hydrocarbons and occasionally small percentages of aromatic hydrocarbons. The sulphur found in properly treated gasoline is in the form of alkyl disulphides, R.S-S.R, the compounds formed by the action of the chemicals used in the refining operations on the mercaptans, R.SH, existing in the distillate.

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA-KANSAS
Pipe Line Statement for November

Runs

	Month (bbls.)	Dy.av. (bbls.)
Prairie P. L. Co.*	705,000	23,500
Gulf P. L. Co.	1,710,611	57,020
Texas P. L. Co.	779,160	25,972
Magnolia P. L. Co.	1,683,675	56,123
Empire P. L. Co.	2,507,976	83,599
Cosden P. L. Co.	670,597	22,353
Stanolind P. L. Co.*	3,300,000	110,000
Oklahoma P. L. Co.	2,067,697	68,923
Other lines	6,137,700	204,590
Total November	19,562,416	652,080
Total October	16,133,640	520,440
Difference	3,428,776	131,640

Shipments

Prairie P. L. Co.	2,778,792	92,626
Gulf P. L. Co.	1,229,969	40,999
Texas P. L. Co.	1,027,055	34,235
Magnolia P. L. Co.	1,424,446	47,482
Empire P. L. Co.	2,309,020	76,967
Cosden P. L. Co.	847,224	28,241
Stanolind P. L. Co.	3,622,000	120,750
Oklahoma P. L. Co.	1,940,538	64,685
Other lines*	4,650,000	155,000
Total November	19,829,044	660,985
Total October	20,000,828	645,188
Difference	171,784	15,797

Stocks

Prairie O. & G. Co.*	35,781,000
Gulf P. L. and Gypsy Oil Co.	8,036,722
The Texas Company	2,598,218
Magnolia Petroleum Co.	7,330,313
Empire P. L. Co.	3,637,085
Mid-Continent Petroleum Corp.	3,280,373
Stanolind Crude Oil Pur. Co.*	15,631,000
Oklahoma P. L. Co.	1,394,820
Carter Oil Co.	6,853,352
Other lines*	15,482,000
Total November	100,025,383
Total October	98,180,971
Difference	1,844,412

*Estimated.

EASTERN PIPE LINE REPORT FOR MONTH OF DECEMBER

Runs From Wells

In the following tables will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky, Illinois, Indiana and Michigan for November and December:

	Nov.,'31	Dec.,'31
Nat. Transit	124,750.97	134,728.53
S. W. Pa. P. L.	74,098.69	78,639.10
Eureka P. L.	283,984.98	304,834.50
Buckeye P. L. (Macksburg)	257,058.99	276,673.59
Buckeye P. L. (Cleveland)	12,136.62	12,125.02
Buckeye P. L. Lima, etc.	66,302.98	77,185.73
Indiana P. L.	2,833.35	2,581.64
N. Y. Transit	37,877.10	42,593.82
Tide Water P. L.	23,526.84	24,880.76
Pure Oil	294,109.73	350,431.59
Stoll Oil Ref.	77,377.78	36,806.03
Bradford Trans.	396,444.21	422,865.63
Ashland Ref.	144,095.48	152,539.88
Total	1,794,597.72	1,916,885.52
Daily average	59,819.92	61,835.03

Petroleum Deliveries

The following ta les exhibit the shipments or regular deliveries of various pipe l nes in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for November and December.

	Nov.,'31	Dec.,'31
Nat. Transit	555,055.72	554,540.59
S. W. Pa. P. L.	353,585.86	426,018.53
Eureka P. L.	270,980.17	318,074.34
Buckeye P. L. (Macksburg)	228,820.83	233,257.65
Buckeye P. L. (Cleveland)	1,715.98	1,709.74
Buckeye P. L. (Lima, etc.)	1,702,436.58	1,578,295.69
Indiana P. L.	754,554.80	738,240.58
Southern P. L.	70,467.39	61,182.44
N. Y. Transit	192,298.27	176,524.14
Northern P. L.	151,356.84	134,129.64
Tide Water P. L.	424,477.09	272,501.01
Pure Oil	394,500.51	190,150.36
Bradford Trans.	413,554.01	448,373.68
Tuscarora	266,328.33	330,473.61
Ashland Ref.	112,625.92	
Total	5,892,757.31	5,463,472.00
Daily average	196,425.26	176,241.03

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of November and December:

	Nov.,'31	Dec.,'31
Nat. Transit	695,594.17	647,268.73
S. W. Pa. P. L.	415,253.99	484,609.86
Eureka P. L.	1,207,018.46	1,205,561.50
Buckeye P. L. (Macksburg)	284,220.29	298,989.13
Buckeye P. L. (Cleveland)	46,414.61	45,407.41
Buckeye P. L. (Lima, etc.)	2,616,930.98	2,890,304.17
Indiana P. L.	561,296.24	543,883.39
Cumberland P. L.	64,408.44	64,500.81
Southern P. L.	183,750.86	229,411.72
N. Y. Transit	111,520.13	145,567.39
Northern P. L.	328,199.83	314,690.06
Tide Water P. L.	941,847.74	1,107,832.07
Pure Oil	481,451.24	803,723.79
Tuscarora	11,135.10	10,793.98
Brad. Trans.	328,694.79	326,488.02
Ashland Ref.	552,649.50	
Total	8,830,386.37	9,119,032.53
Increase	412,681.46	288,646.16

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of November and December, showing gross stocks of the above fields:

	Nov.,'31	Dec.,'31
Pennsylvania	2,961,620.08	3,289,870.05
Lima	602,227.52	598,134.96
Kentucky	627,465.45	74,898.32
Mid-Continent	4,143,909.75	4,422,734.01
Illinois	23,229.59	
Michigan	471,933.98	733,395.19
Total	8,830,386.37	9,119,032.53

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1928	1929	1930	1931
Jan.	52,904	51,749	75,907	53,939
Feb.	57,002	51,833	79,256	55,163
Mar.	57,485	54,252	76,688	54,331
April	56,812	58,444	84,536	54,914
May	62,067	59,902	70,546	53,344
June	58,230	58,833	75,430	54,110
July	57,144	66,087	68,921	50,723
Aug.	57,745	66,087	54,291	51,503
Sept.	53,487	67,315	56,595	61,345
Oct.	58,100	76,093	58,179	64,595
Nov.	53,865	74,831	52,332	59,819
Dec.	52,025	74,561	53,999	61,835

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1928	1929	1930	1931
Jan.	146,465	165,721	217,623	175,369
Feb.	167,368	159,387	224,355	183,494
Mar.	158,883	161,474	228,846	189,508
April	172,935	169,737	241,845	191,450
May	180,559	184,281	248,383	199,247
June	188,024	185,404	234,401	221,155
July	189,470	194,763	207,094	211,632
Aug.	192,853	194,946	205,506	224,166
Sept.	194,138	205,214	193,999	217,537
Oct.	176,000	191,367	157,675	210,831
Nov.	176,898	202,743	146,638	196,425
Dec.	173,572	186,257	143,001	176,241

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1929	1930	1931
Jan.	7,596,564	12,220,045	11,831,092
Feb.	8,738,835	12,991,561	11,506,489
Mar.	9,002,058	13,247,217	11,012,162
April	8,978,172	13,233,961	11,044,487
May	8,903,560	13,052,953	10,728,239
June	8,921,275	13,396,855	9,903,349
July	9,211,565	13,268,562	9,569,849
Aug.	9,440,643	13,047,051	9,192,457
Sept.	9,443,067	12,812,018	8,492,431
Oct.	9,441,101	12,437,553	8,417,694
Nov.	9,868,538	11,851,380	8,830,386
Dec.	11,253,953	11,751,952	9,119,032

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks Jan. 1	440,110.92
Runs from wells	490,830.52
Other receipts	303.50
Regular deliveries	263,402.75
Other deliveries	207,408.59

The amount of Illinois oil run by the Tide Water Pipe Co. in December was 34,-830.76 bbls. Deliveries were 43,220.44 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1931	Runs	Deliveries
December	515,771.28	306,623.19
1930		
January	543,387.95	498,293.93
February	548,416.33	414,536.59
March	631,944.49	469,119.53
April	530,074.22	509,304.60
May	605,147.37	504,069.84
June	572,662.57	468,658.81
July	604,529.54	388,454.47
August	594,642.12	375,742.43
September	457,001.11	371,691.62
October	478,442.12	320,688.73
November	422,794.68	355,403.12
December	556,418.78	363,719.55
1931		
January	468,429.04	669,573.19
February	429,284.54	461,262.85
March	424,638.23	356,663.26
April	421,814.98	282,532.65
May	433,231.80	322,513.95
June	510,805.78	320,258.13
July	520,009.38	289,219.05
August	476,623.56	393,231.06
September	492,183.83	323,012.50
October	498,124.13	326,834.95
November	470,302.63	281,258.43

Tide Wate Pipe Co., Ltd., also delivered in December, 102,199.72 bbls., Oklahoma oil.

AVERAGE DAILY IMPORTS OF CRUDE AND REFINED OIL AT PRINCIPAL UNITED STATES PORTS

Average barrels per day in 1930-31—	ATLANTIC PORTS Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS Galveston	New Orleans, Baton Rouge	Port Arthur, Sabine Pass	Tampa	Total	Total all ports
December	31,419	14,033	122,774	32,839	33,774	224,839	6,290	10,613	2,097	290	19,290	244,129
January	17,613	13,519	154,235	32,902	30,612	248,871	2,032	11,677	2,097	3,097	18,903	267,774
February	31,321	16,929	127,786	31,714	26,857	234,607	4,536	11,571	....	536	16,643	251,250
March	37,646	18,935	141,160	26,290	21,129	238,161	4,065	2,580	....	1,969	8,613	246,774
April	35,000	10,533	105,000	29,767	35,533	215,833	2,733	3,400	....	....	6,133	221,966
May	30,129	8,774	107,000	25,452	26,710	198,065	....	2,000	....	..	2,000	200,065
June	30,067	10,533	111,767	27,000	20,833	200,500	3,300	5,500	2,167	1,333	12,300	212,800
July	36,387	11,226	104,678	29,323	21,773	193,387	6,903	7,419	4,194	....	18,516	211,902
August	32,613	15,581	91,742	22,387	25,741	188,064	4,161	2,516	....	2,162	9,839	197,903
September	37,067	7,267	106,867	20,099	22,967	194,267	4,833	8,333	....	....	13,166	197,433
October	53,710	14,484	140,774	36,742	40,645	286,355	6,097	6,871	2,097	1,838	16,903	253,258
November	48,033	38,800	51,667	28,600	12,967	179,067	2,933	10,833	3,033	1,367	19,166	189,233

AVERAGE DAILY RECEIPTS OF CALIFORNIA CRUDE AND REFINED OIL AT ATLANTIC AND GULF PORTS

Average barrels per day in 1930-31—	ATLANTIC PORTS Baltimore	Boston	New York	Philadelphia	Others	Total	GULF COAST PORTS Galveston	New Orleans, Baton Rouge	Port Arthur, Sabine Pass	Tampa	Total	Total all ports
December	6,516	4,323	20,645	9,678	3,580	53,742	....	....	....	....	4,645	58,387
January	8,387	6,613	21,968	14,678	11,096	62,742	....	....	....	....	6,129	68,871
February	5,787	2,713	29,143	4,000	5,750	47,393	....	....	....	....	3,750	51,143
March	10,032	1,611	21,388	7,324	8,774	49,129	....	....	....	....	6,355	55,484
April	5,133	....	19,200	16,500	10,067	50,900	....	....	....	....	4,000	54,900
May	4,452	3,064	19,903	11,226	6,258	44,903	....	....	....	....	2,355	47,258
June	4,367	...	25,100	6,333	3,500	39,200	....	....	....	....	....	39,200
July	6,774	1,194	24,612	11,065	9,902	53,548	....	....	....	....	1,335	54,903
August	3,452	....	16,419	7,419	4,290	31,580	....	....	....	....	968	32,548
September	4,267	3,667	12,933	4,699	7,367	32,933	....	....	....	....	4,000	36,933
October	2,355	1,129	19,290	16,709	9,323	48,806	....	....	....	....	3,323	52,129
November	1,000	....	22,800	11,567	....	35,367	....	....	....	....	3,366	38,733

GROSS PRODUCTION OF CRUDE OIL IN THE UNITED STATES FOR 12 MONTHS

(In Barrels of 42 Gallons)

1931—		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mts.	Eastern	Total
January:	Month	16,485,738	14,850,953	20,019,212	3,432,475	1,574,955	2,135,037	2,966,142	3,374,000	64,838,512
	Daily average	531,798	479,063	645,781	110,725	50,805	68,872	95,682	108,839	2,091,565
February:	Month	14,930,932	13,531,980	18,957,571	3,341,016	1,402,492	1,981,616	2,747,024	3,129,000	60,021,631
	Daily average	533,248	483,285	677,057	119,322	50,089	70,772	98,108	111,750	2,143,629
March:	Month	16,364,842	16,627,687	22,453,619	3,498,598	1,469,245	2,061,576	2,898,035	3,374,000	68,747,602
	Daily average	527,898	536,377	724,310	112,858	47,395	66,502	93,485	108,839	2,217,665
April:	Month	15,803,541	16,815,990	26,887,717	3,281,880	1,412,220	2,008,021	2,901,870	3,273,000	72,384,239
	Daily average	526,785	559,255	896,257	109,396	47,074	66,934	96,729	109,100	2,412,808
May:	Month	16,448,960	17,333,867	28,708,584	3,341,366	1,446,274	2,232,568	3,098,419	3,190,000	75,800,138
	Daily average	530,612	559,157	926,086	107,786	46,654	72,018	99,949	102,900	2,445,166
June:	Month	15,641,436	16,678,200	29,139,833	3,175,440	1,344,450	1,850,511	2,986,200	3,166,000	73,982,070
	Daily average	521,381	555,940	971,327	105,848	44,815	61,684	99,540	105,533	2,466,068
July:	Month	16,093,322	16,420,080	33,827,213	3,089,832	1,287,585	1,715,730	2,905,909	3,341,000	78,680,671
	Daily average	519,139	529,680	1,091,200	99,672	41,535	55,345	93,739	107,774	2,538,078
August:	Month	15,668,984	9,517,279	32,279,816	3,141,323	1,165,569	1,584,444	2,807,143	3,167,000	69,331,558
	Daily average	505,451	307,009	1,041,284	101,333	37,599	51,111	90,553	102,161	2,236,502
September:	Month	15,180,610	7,946,880	28,981,525	3,147,030	1,138,380	1,641,284	2,761,230	3,632,000	64,429,039
	Daily average	506,020	264,896	966,051	104,901	37,946	54,713	92,041	121,067	2,180,968
October:	Month	15,651,983	12,951,893	30,725,173	3,177,066	1,172,389	1,822,255	2,797,597	3,900,000	72,198,356
	Daily average	504,903	417,803	991,134	102,486	37,819	58,782	90,247	125,807	2,328,979
November:	Month	14,997,700	16,430,730	28,860,561	3,131,670	1,130,700	1,851,577	2,706,390	3,639,000	72,748,328
	Daily average	499,923	547,691	962,018	104,389	37,690	61,719	90,213	121,300	2,424,946
December:	Month	15,560,984	16,598,299	27,767,651	3,198,642	1,082,148	1,971,817	2,816,759	3,645,000	72,641,300
	Daily average	501,967	535,429	903,860	103,182	34,908	63,607	90,863	117,581	2,343,268
Total 12 months		188,829,032	175,703,848	328,608,575	38,956,338	15,626,407	22,856,536	34,392,718	40,830,000	845,803,454